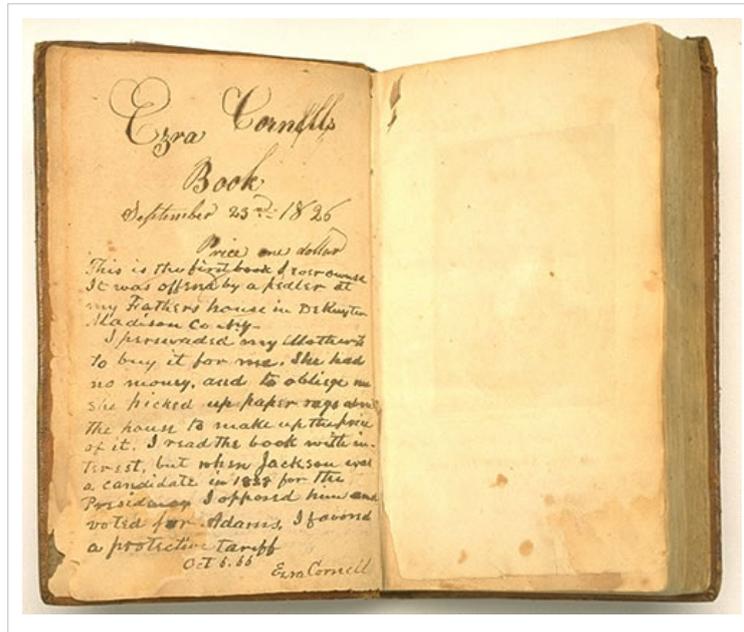


Teachers' toolkit for creating and re-purposing OER using FOSS/Print version



Teachers' toolkit for creating and re-purposing OER using FOSS

The current, editable version of this book is available at

<https://teacher-network.in/OER/index.php/>

Teachers%27_toolkit_for_creating_and_re-purposing_OER_using_FOSS

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Preface

Preface to be written by COL and IT for Change. Some part of the next chapter could be taken into the preface.

A toolkit for creating OER using FOSS tools

In a society that is becoming increasingly digital, it is no surprise that educational processes are also getting impacted by digital technologies (popularly known as Information and Communication Technologies, or simply ICTs). A significant development in the educational domain has been the rise of Open Educational Resources (OER), with the promise of delivering quality education. An essentially, digital phenomenon, OER seek to leverage the possibilities of digital methods for accessing, creating, modifying and sharing educational content. OER has

redefined the copyright regime, stimulating the sharing of content with license to re-use, modify and share / publish. While the advantages seem obvious in terms of increased availability of curricular materials and reducing costs of education, research suggests that OER seems to have not achieved its potential for adoption^[1].

What limits OER adoption

“Build it and they will come?”^[2] This perhaps captures the current paradigm in the OER space, with more and more materials being made available from educators and institutions, but with limited uptake from users. One important reason behind this is the low level of awareness about OER and its possibilities. Causes could be:

1. **legal** - with limited awareness of open licensing possibilities amongst people
2. **cultural** - OER availability is more in English than in local languages, thus limiting access and use
3. **social** - OER creation is largely ‘expert-driven’ with limited participation of teachers and other resource creators and hence participation and even awareness is limited
4. **pedagogical** - teaching is often restricted to ‘text books’ in many education systems and teachers are yet to look beyond the text books for sourcing materials for their teaching

In addition the technology ecosystem plays an important role in OER adoption. With OER being essentially digital, the means of accessing OER for reuse, revision and sharing must be freely available. The digital allows creation possibilities in multiple ways – textual, graphics and audio-visual – and the availability of software applications for creation and re-purposing becomes critical. OER began as a digitization of textual resources and thus text format has dominated. Secondly, in a proprietary software dominant desktop environment, where the use of Free and Open Source Software (FOSS) is limited, it becomes prohibitively expensive for most individuals and institutions, to license proprietary applications for creating resources in audio, video and other media formats, thus limiting their creation. With the dominance of text format, and the lack of appropriate software applications, users did not have the means and tools for accessing and re-purposing OER in multiple formats, thus affecting its adoption.

However, we now have a wide variety of mature and high quality FOSS applications which can allow resource creators and editors to create, re-mix, revise and re-distribute OER in multiple formats. These are available on the desktop environment, on the web and on mobile phone platforms. The power of OER comes from its ‘openness’, that it can be freely re-used, revised and re-distributed. Similarly, software that is ‘open’ and can be freely re-used, revised and re-distributed can create a rich learning environment, by providing the tool-set for OER creation and re-purposing.

Free and open technology environment

An important power of the digital is the negligible marginal cost of production of digital resources, whether software or content. The following quote is popularly attributed to Bernard Shaw

"If you have an apple and I have an apple and we exchange apples then you and I will still each have one apple. But if you have an idea and I have an idea and we exchange these ideas, then each of us will have two ideas."

This is applicable to digital resources as well. If digital resources are allowed to be freely shared, modified and shared again, then it can result in a resource rich environment. This is the idea that triggered of the Free and Open Source Software and the Open Educational Resources movements. Promoting a free and open digital technology environment will thus have a positive influence on OER adoption (including production and consumption) as well.

Democratizing OER production and consumption

Popularizing the use of FOSS applications amongst writers, editors and course developers can be hugely beneficial in enabling the larger and wider development of OER, and in richer formats. This process can help us move from a paradigm where OER is created by ‘experts’ for all, to a more participatory process where many more people can participate in OER production and exchange. Every teacher usually has to make or customise materials for her teaching-learning. This toolkit is an introduction to possibilities of OER creation and re-purposing through the use of

various FOSS applications. *We hope that access to a free and open technology environment will encourage every teacher to become an OER creator, an OER 're-purposer' and an OER publisher.*

Facilitating Technological knowledge

Many, if not most users of ICT, restrict their use to a few software applications. However, if you are able to become familiar with many more applications, over time you will acquire a 'technology felicity', which will enhance your confidence. The FOSS universe has thousands of applications, many of which, you will find useful. In any area of work, you will find more than one application. Your learning need not be restricted to just one application in any area, learning more applications will increase your expertise and confidence. For instance, even in the area of text editing, you can familiarise yourself with LibreOffice Writer, gedit, KWrite etc. This process will enable you to explore any new application and learn its features on your own. Such 'learning to learn' ability can be a useful outcome from fearlessly exploring multiple applications, on your own.

On your Ubuntu GNU/Linux system you can download innumerable free and open source applications ([Applications -> Other -> Software Centre](#)) in different domains/areas, from the Internet. For instance, you could type 'mathematics' and see all the mathematics software applications available in the Ubuntu GNU/Linux repository, which you can download and install on your computer.

About the tool-kit

The “*Hands-On Toolkit for Teachers to Create, Re-purpose and Publish Open Educational Resources (OER) using Free and Open Source Software (FOSS)*”, aims to promote the creation, re-purposing and publishing of OER using FOSS applications. The toolkit has been developed by IT for Change, an organization working with teachers and school systems on the use of FOSS for OER creation. This toolkit is aimed at native and non-English native speakers, hence the language has been kept simple and accessible.

The toolkit is available in two formats. One is this *print edition*, (soft copy through a PDF format, which you can use for printing, if you need a hard copy). The second format is an *on-line edition* in the form of a “Wiki book^[3]”. The Wiki book edition will also be shared *off-line on a DVD*, with the printed version of the tool-kit, which will enable user to read the digital version without internet connectivity.

Along with the tool-kit, a *custom software distribution* which contains the FOSS desktop tools covered in the handbook is shared as a DVD, which you should install on your computer, to create OER.

In line with the philosophy of OER, the toolkit is released under the CC-BY license, and the custom software distribution is released under the General Public License (GPL). The CC BY license enables you to make copies of the tool-kit with or without modifications and distribute it for profit or not for profit. The GPL license enables you to make copies of the software applications with or without modifications. Modifications if any, can be distributed only as FOSS.

How to use this tool-kit

The “hands-on toolkit for teachers to create, re-purpose and publish Open Educational Resources (OER) using Free and Open Source Software (FOSS)” discusses the creation of OER in three separate chapters, dealing with text, image and animations, audio and video OER respectively.

Each chapter begins with information on commonly used open repositories for that resource format. *In creating OER, keeping with the OER principle of 'give and take', it is necessary to first check for OER that is already available for the topic you are working on, and use these OER as an input to your own creation processes. Many find it easy to create based on what they currently know, ignoring existing OER. However, it is an academic principle to actively build on existing knowledge, hence accessing OER is the first step in creating OER.*”

Subsequently, in each chapter, the features of a few applications that will enable you to create and re-purpose OER are explained. The selection of the tools from its universe is based factors such as its popularity, ease of use,

level of community support currently available.

In order to provide a step by step guide through real-world examples on how to create and re-purpose OER, the toolkit takes a case of “How to create an OER on Digital storytelling”. Over the three chapters, the toolkit will develop the OER for digital story telling, in text, graphic and audio visual formats. This is followed by a chapter on ‘Publishing OER’, to help you publish your OER on-line, for re-use by others.

You are now ready to begin using the tool-kit. The first step is to ensure you have the software applications required.

Install the custom distribution of Ubuntu GNU/Linux on your computer

You need access to the FOSS applications taught in this tool-kit, for which you should install the *custom software distribution* provided. The distribution includes the Ubuntu GNU/Linux free and open source operating system which can be installed as a full fledged software system on your computer. You can install it ‘side-by-side’ with any other operating system on your computer as well. A video on installing this custom distribution is available here ^[4].

Install the FOSS applications on your computer with Windows operating system

Many of the desktop applications discussed in this toolkit are also available on the Microsoft Windows operating system. You can download the software installation kit (.exe files) from the internet and install on the Windows operating system, see Annexure for information.

Install the FOSS applications on your mobile phone

You can install the FOSS applications discussed in the tool-kit, for the mobile phone (Android operating system), using the link for the app installer for each app, see Annexure for information. The installation can be invoked using Google Play Store ^[5] or FDroid ^[6].

Create your own OER as a part of using this tool-kit

Identify an area which you are very keen to learn more about, or where you feel you need resources. Your own work as a teacher may require you to have materials for classroom teaching-learning processes, or for sharing with colleagues for mutual learning, or simply for your self-development. It will be much more meaningful learning, if as a part of using this tool-kit, you could access, create, re-purpose and publish a OER on a topic which you want to learn/ know more about. The topic could be from the subject you teach (a science topic like ‘Light’ or a mathematics topic such as ‘number system’ or a geography topic as ‘forests’), or a larger issue in education (‘Challenges of teaching in inner-city public schools’), or larger social issue (‘global warming’). You could create this OER in English or in your own native language (where the need for such an OER may be even greater).

Assumption about the user of this tool-kit

The toolkit assumes that you have a basic comfort in using computers, you can start and shut down a desktop computer. It assumes very basic familiarity with the commonly used applications on a computer, such as file explorer, web browser and text editor. The toolkit assumes similar basic comfort in using a feature mobile phone (aka ‘smart phone’).

Help

You can any time access this tool-kit, off-line or through the on-line Wiki repository to learn the FOSS tools to create, re-purpose and publish OER.

References

- [1] The term ‘adoption’ of OER is used in this note in a comprehensive manner, to include creation, use, re-use, revision, re-mixing, retaining and re-distributing.
- [2] Hatakka, M. (2009). Build it and they will come? - Inhibiting factors for reuse of open content in developing countries. *The Electronic Journal on Information Systems in Developing Countries*, 37(5), 1-16. Retrieved from UNIQ-nowiki-0-2d6c29fd32d00b92-QINU

- [3] WikiBooks is a MediaWiki extension for creating collaborative books, this is a e-book creation platform. MediaWiki is the software used by Wikipedia, the world's most popular encyclopedia.
- [4] <https://youtube.com/watch?v=nBD4KqH5CT8>
- [5] <https://play.google.com/store?hl=en>
- [6] <https://f-droid.org/>

Text OER

Text is an important resource format and often OER have begun with digitizing of text materials - textbooks, papers, etc. While the digital allows creation multiple kinds of resources, text still holds an important position in terms of content creation. Textual OER includes text documents, web pages, PDF documents, spreadsheets and other resources which are primarily text based. Currently a large amount of textual OER is created using proprietary formats and made available in proprietary or PDF formats. PDF formats do not easily enable editing and hence limit re-purposing. In addition, in the absence of licensed proprietary applications, these OER may not be able to be legally reused or modified. Using free and open source tools to create textual OER can allow more and more users to create content; this can also support the expansion of the universe of OER creation in languages other than English.

One important advantage of the digital tools is the possibility of creating different kinds of textual resources. We are no longer thinking of linear typed text alone; it is now possible to create concept maps, flow charts, diagrams, combine text and images and create an info-graphic and so on. The hypertext which makes web pages possible is also another form of text. In this chapter of the toolkit, we will look at how to access, create and re-purpose textual OER; all the tools discussed are basically text editing tools.

Objectives

In this chapter, you will learn

1. about popular repositories for accessing text OER
2. to access text OER and create your personal digital library for organizing your OER
3. to access, create and re-purpose concept maps using concept map editor (*Freeplane*)
4. to access, create and re-purpose text resources using a text editor (*LibreOffice Writer*).
5. to present text resources in a 'slide presentation' format (*LibreOffice Impress*)

Your personal digital library for OER

As a part of using this tool-kit to learn FOSS tools and create OER, you will be accessing and creating many documents / files. It is necessary for you to organize these files carefully on your computer so that you can access them easily later. You should create a folder on your computer with the <name of the topic> that you would like to create OER on; this can have sub folders for 'Text OER', 'Image OER' and 'Audio Video OER' for saving your save your text, image, audio and video files respectively. By organizing your files and folders carefully on any topic, you are creating what can be termed as a 'Personal Digital Library' on that topic. Having personal digital libraries allows you to access and re-use OER easily and effectively. You could instead create sub folders for different sub-topics for your topic and save your files based on the sub topic. For instance, the topic 'energy' could serve as the name of your folder, within which you could create sub-folders for heat, light, magnetism, electricity etc. You should think about the way you would want to access your OER later, and create the sub-folders (and sub sub-folders) on basis of this hierarchy.

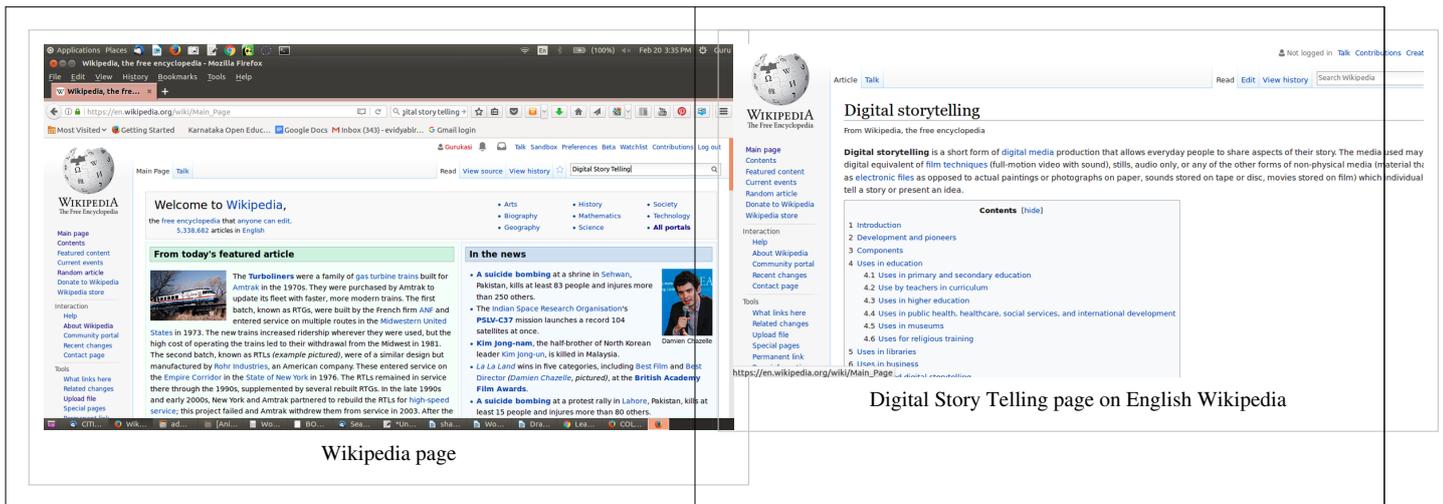
In the last chapter on 'Publishing OER', we will explain how you can upload these resources on the world wide web, which can be considered as the 'Global Digital Library' accessible to anyone with connectivity.

Accessing text OER repositories

An OER creation process begins with reuse of existing OER; the Internet is a rich source of text OER. It is important to access OER while creating your own because you cannot use content not licensed for reuse. You could either access popular known OER repositories or you could search the internet for resources you want. A browser is needed for accessing the internet, a free and open source browser is Mozilla Firefox.

Search from known repositories

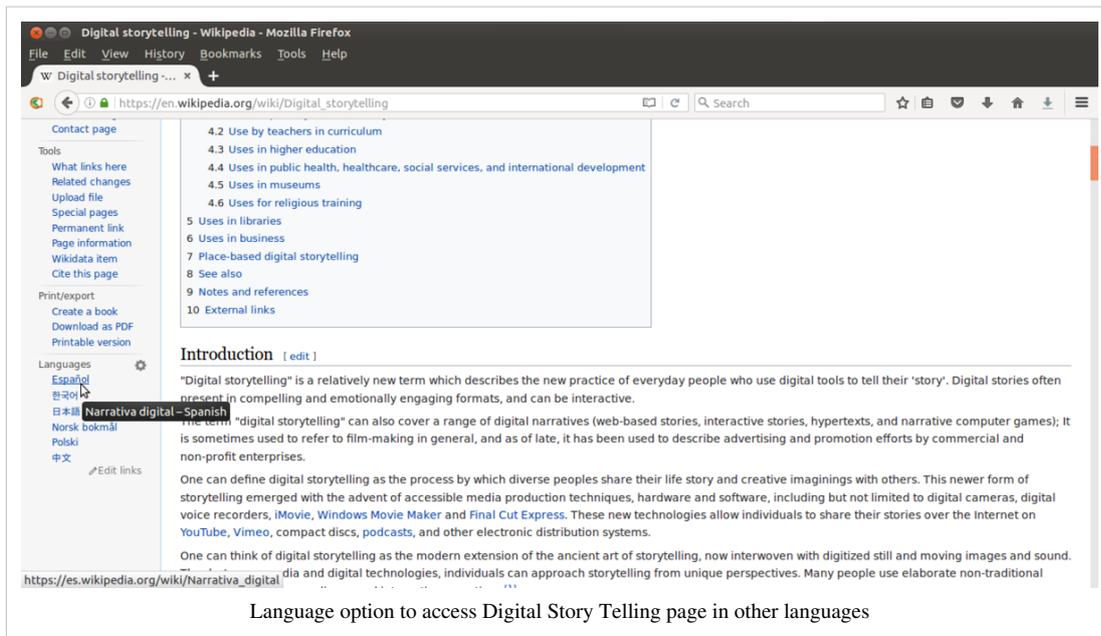
One method of accessing existing OER is to search some text repositories. The most popular text OER repository is the digital encyclopedia, Wikipedia. You can search for your topic in Wikipedia, by simply typing this text in the search bar. We will do this for 'Digital Story Telling' (DST) which is the OER proposed to be created as an exemplar by this tool-kit.



Wikipedia page

Digital Story Telling page on English Wikipedia

Wikipedia is available in more than hundred other languages, so you may also be able to search for text OER in your native language.

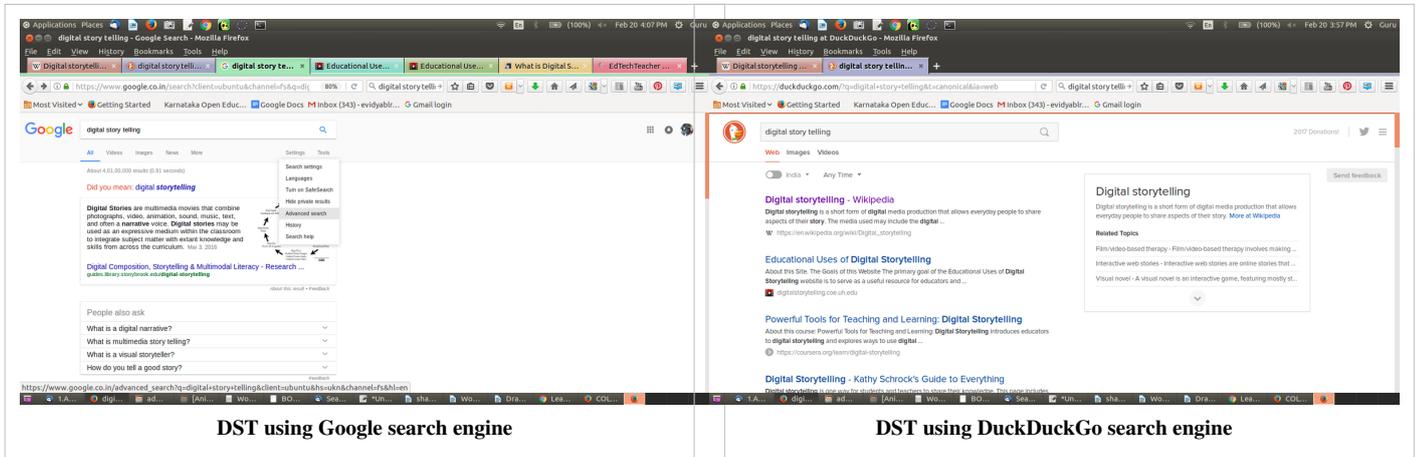


Language option to access Digital Story Telling page in other languages

Other popular OER sites include <http://www.wikieducator.org>, <https://oercommons.org>. A list of OER sites is available on <http://www.searchoer.com/list-of-oer.html>.

Searching the web for OER

In addition to accessing on the Wikipedia, you could also use a search engine to access information can use a search engine such as Google search engine or DuckDuckGo search engine. You could look for information by simply typing in Digital Story Telling in the search bar of the search engine; shown below are examples of how a search for "Digital Story Telling" would look like.



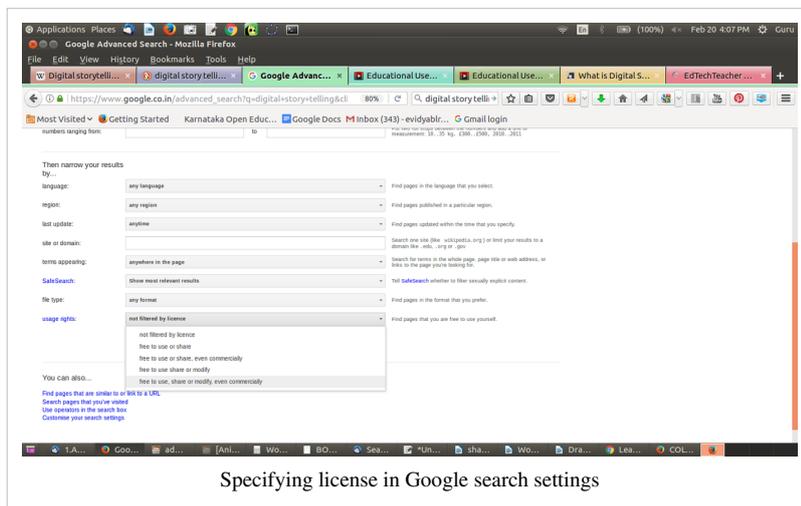
DST using Google search engine

DST using DuckDuckGo search engine

The search engine will retrieve web pages for your topic that are both OER and non OER and it is important to specify OER in your search criteria.

When you visit any site returned by the search results, you need to look for copyright information to ascertain that the resource is OER and you can re-use it. If the resource is not explicitly declared to be an OER (allowing you to re-use), you should not use it in making your OER.

Introducing OER as a criteria in your search



Specifying license in Google search settings

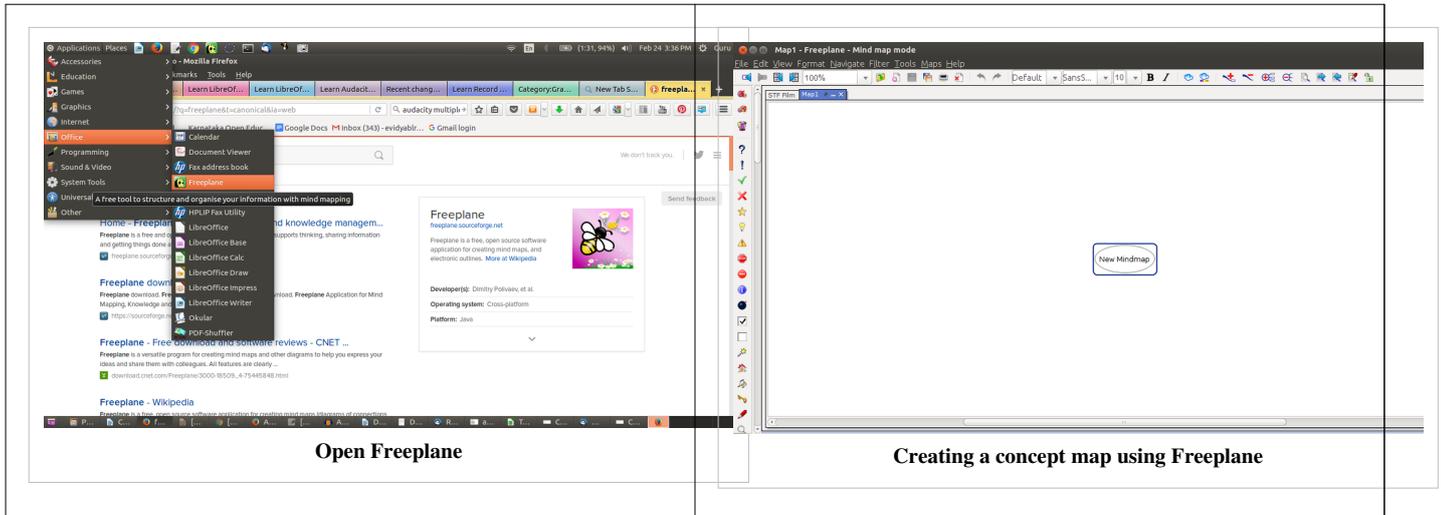
Search engines allow for search results to be filtered and displayed by license. You can do this by specifying OER as a criteria while setting your search preferences. In Google search you need to select **Settings** → **Advanced Search**. In Advanced Search, you can select Usage Rights as 'free to use, share or modify, even commercially' to get OER that you can re-use with or without modification.

Creating a text OER - a concept map

Concept maps are an effective way of creating a textual resource that can be organized graphically, in the form of a map or tree of ideas; it provides a pictorial overview of the concepts, related concepts / sub-concepts for a topic. A concept map helps you to create a textual OER with possibilities for linking to additional resources, adding annotations as well as graphically organizing ideas through links. A concept map can also be used to plan and design the OER by identifying areas of resource requirements as well as linking to additional resources, serving as a blue print for OER development. Concepts acquire power and meaning when they are connected to other concepts.

Hence, organizing the concepts relevant to your topic is an important first step of OER creation.

Freeplane is a FOSS application that can be used to create concept maps; this toolkit will introduce you to use of Free plane and various functionalities.



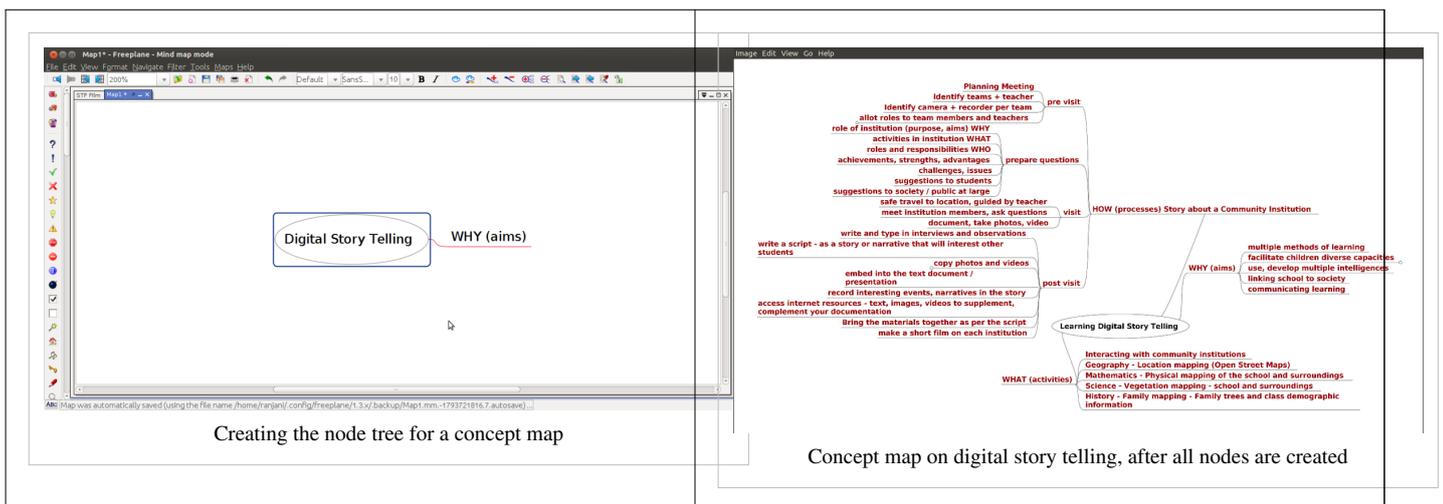
Open Freeplane

Creating a concept map using Freeplane

In the custom distribution of the Ubuntu operating system, accompanying this toolkit, all FOSS applications have been bundled. To open Freeplane, select **Applications → Office → Freeplane**.

Inserting nodes

To learn working with Freeplane, we will start creating a concept map for Digital Story Telling; you will see above that Freeplane has opened a window with a box with text "New mindmap". This node, also called the "root node" will contain the core idea/ theme of the resource. Additional ideas are added by adding more nodes, called child nodes. The concept map gets built by adding further child nodes, for topics and sub-topics. Use the 'insert' key to create a 'child node' this is a sub-concept of your current concept. Use the 'enter' key to create a 'sibling' this is a parallel concept to your current concept. Thus you can create a concept map with knowing just two functions – add child node (insert) and add sibling node (enter).



Creating the node tree for a concept map

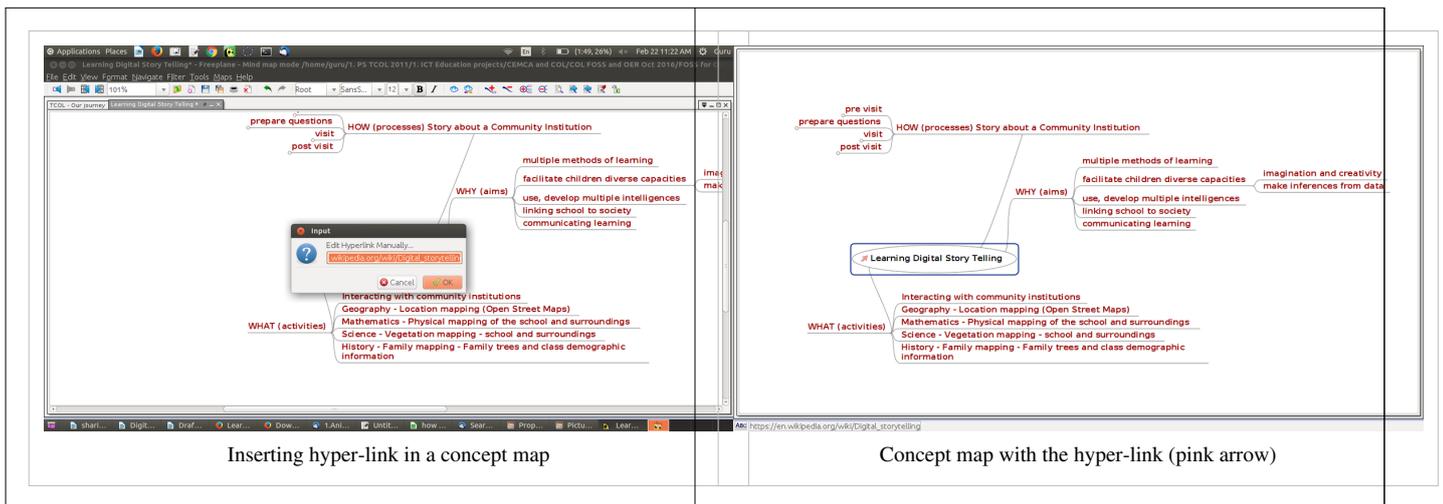
Concept map on digital story telling, after all nodes are created

As a part of this toolkit, we have developed a concept map on digital story telling. Concept maps can be stored on your folders; they are saved with an extension ".mm". We have created a concept map called Learning Digital Story Telling.mm and saved it on our folder for text resources as part of the personal digital library for digital story telling. The extension .mm stands for mindmap. Our map has nodes for the 'why', 'what' and 'how' of DST, with sub-nodes.

Likewise, please create a concept map and save it with the same name in your folder you have created with your topic name. Note that simply saving the file will save it with the name you have given in the root node. Create the sub-nodes for each node as per your imagination / thinking about the topic.

Inserting hyperlinks

Did you notice the red arrow in the root node of our concept map? This main node has a hyper-link which opens the wikipedia page on DST. You can embed a hyper-link on a node, such that clicking that node will open a page on the Internet or a file on your computer. This connects a node on your map to related resources you may want the reader to access.

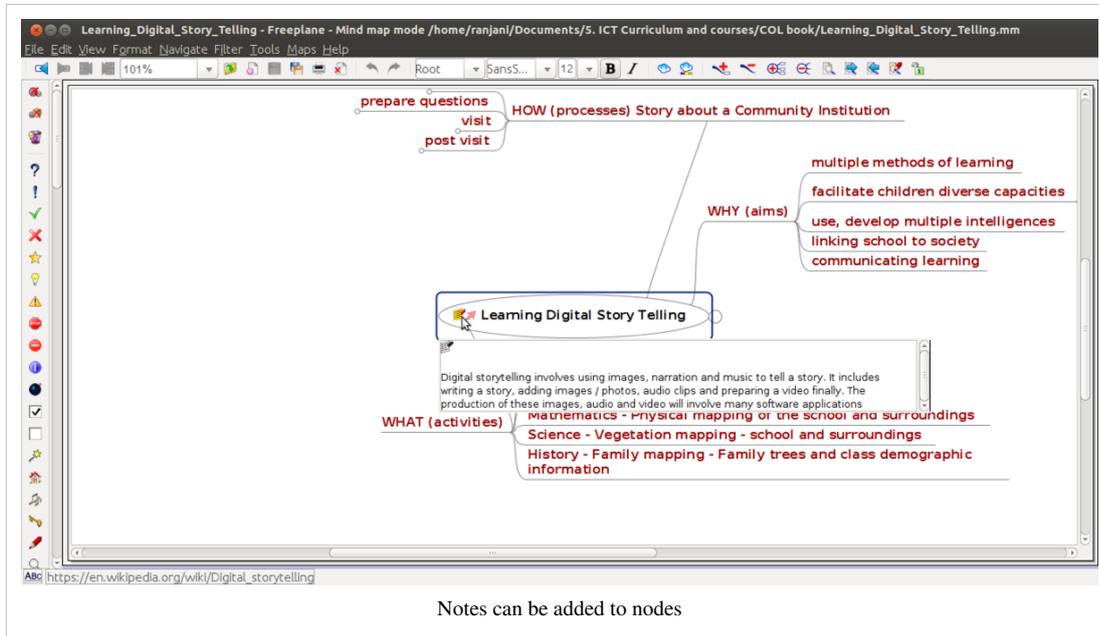


In our Learning Digital Story Telling.mm concept map, we have inserted a hyper-link for the main node 'Learning Digital Story Telling'. Move your cursor to this node and select **Edit** → **Link** → **Add or Modify hyperlink (type)**. You can also use the keyboard shortcut CTRL-K. Freeplane will open an input bar. We will type in our webpage address https://en.wikipedia.org/wiki/Digital_storytelling into this input bar

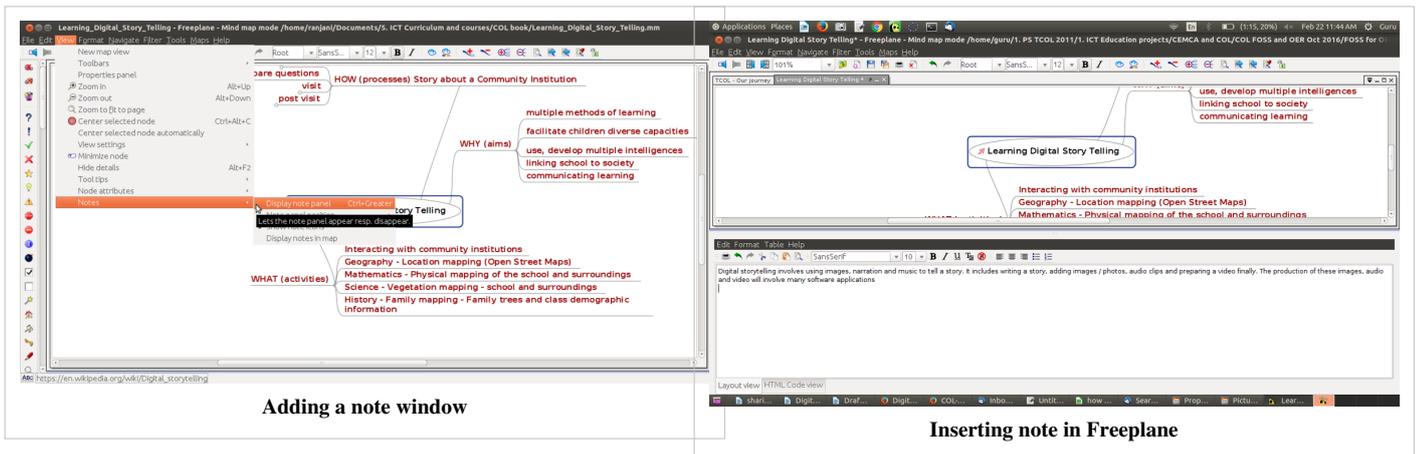
You should identify a useful web resource for any one node. You should similarly insert this hyper link for that node following the same steps. Note that Freeplane provides a pink arrow in the node, to signify that the node has a hyper link. Clicking on this pink arrow will open the web page that is linked, when there is an internet connection. In this manner, your concept map OER can provide links for each node, to access information on the world wide web, enriching the OER.

Inserting a note

In our Learning Digital Story Telling.mm concept map, you will also see a yellow label beside the arrow and if you place your mouse over the yellow label, you will see a note description. To add a note, you can click on the node, go to **View--->Notes--->Display note panel**; this will open a window in which you can type your notes. You can change the position and size of this note window.



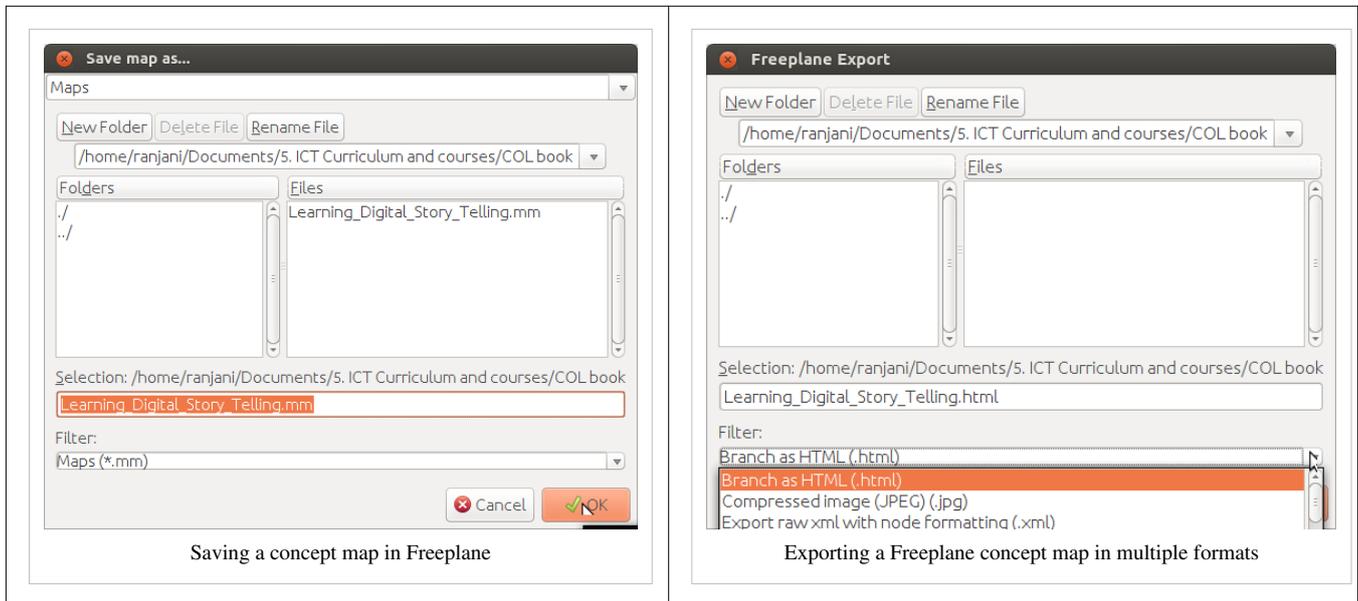
You should practice inserting a note for any one of your nodes in your concept map, following these steps. In this manner, your concept map OER can provide notes for each node, to provide richer and more detailed information for that node. (Advanced tip – If you export your concept map as a ‘odt’ or ‘doc’ text file, your note will be added to the section created for the node).



The aim here is to get you started with concept map OER creation using Freeplane. For advanced functions, you should refer to the User Manual for the application. The Freeplane tutorial is available within Freeplane itself, which you can access anytime by pressing the F1 function key.

Saving your concept map

By default your concept map is saved by Freeplane as a '.mm' format file. However, the concept map can be saved in many other formats. You can export the map to a text document file (in .odt or .doc formats). You can also export the map as an image (in .png or .jpeg formats) or as a web page (in .html format). We will discuss how you can use this image or html pages in the subsequent chapters. The images below show you how to save and export concept maps in Freeplane.



Freeplane on other platforms

Freeplane is also available on Microsoft Windows, on <https://freeplane.en.softonic.com/download>. In Android Mobiles we can view concept maps through Freeplane reader.

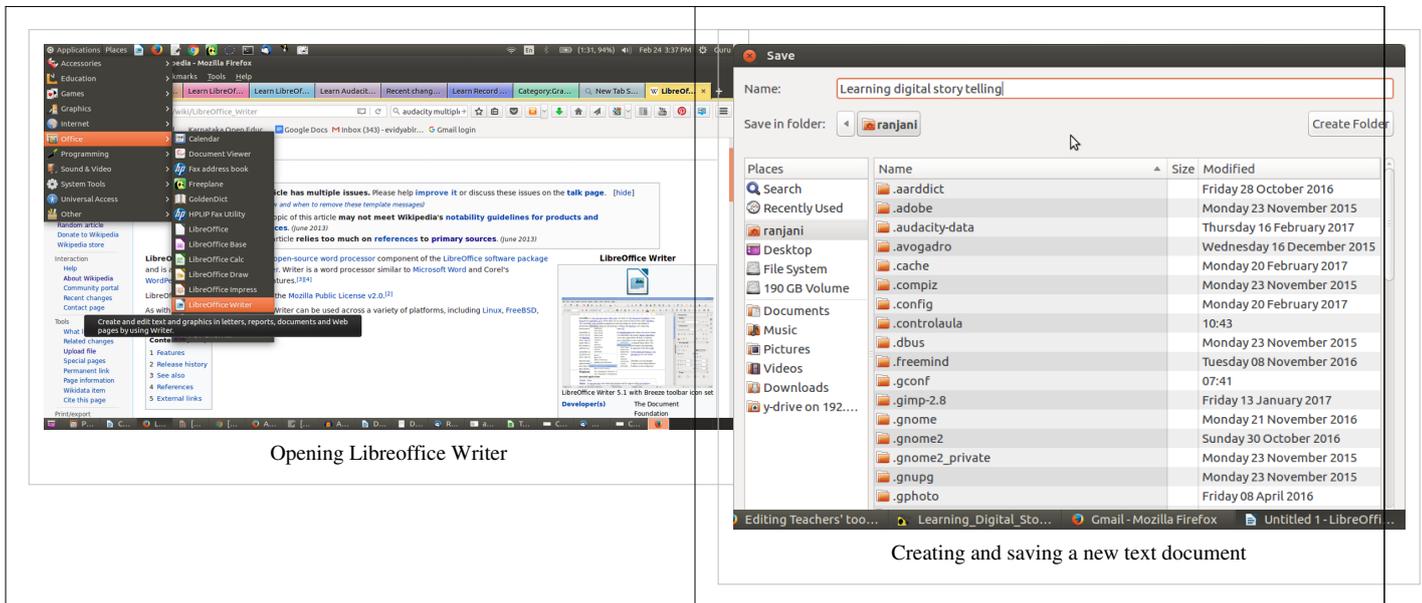
<https://en.wikipedia.org/wiki/Freeplane> has more information about Freeplane and <https://freeplane.org> is the official website of the application.

This information is also provided in an Annexure to this toolkit. For subsequent FOSS applications, please refer to the Annexure for this information.

Creating text OER as a text document

You are familiar with typing text to create a text document, you may have used a software like Microsoft Word. We will use the FOSS Office Suite application called *LibreOffice Writer* (LibreOffice Writer) to create a text document.

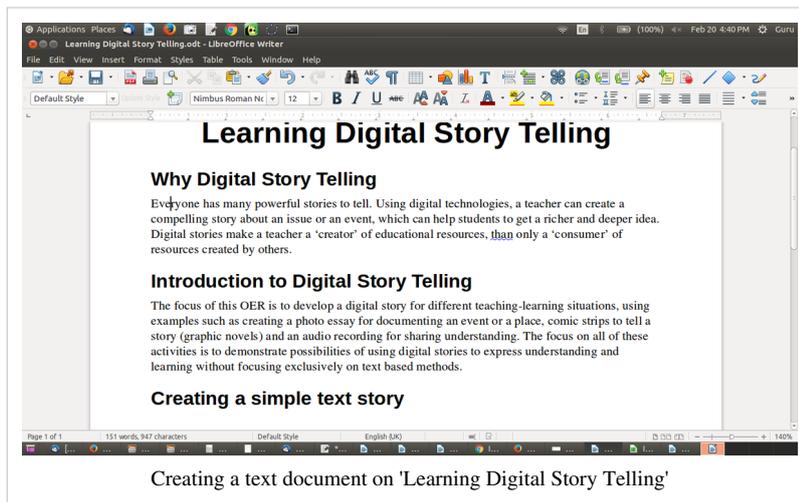
Open LibreOffice Writer on your computer, through Applications → Office – LibreOffice Writer.



Opening Libreoffice Writer

Creating and saving a new text document

You should create a 'new' document, giving the title as the topic name of your OER. We have created a document called- 'Learning Digital Story Telling' and this is saved in the personal digital library folder. You should save this document, on your folder created for your personal digital library. Saving this document, creates a text document "Learning Digital Story Telling.odt" where odt stands for Open Document Text. The concept map that you have prepared for your topic can give you a plan for writing the text document. You will also refer to the OER text resources from Wikipedia and other sites for your topic that you have searched.



Creating a text document on 'Learning Digital Story Telling'

You can similarly create your own text OER. You will learn the following basic functions in a text editor which you need to use in creating OER.

1. Entering and formatting text
2. Inserting a numbered list
3. Inserting a table / box item
4. Insert page numbers
5. Insert section headings

Entering and formatting text

You can enter text by simply typing into this document. In our document,

we have entered text under following four paragraphs

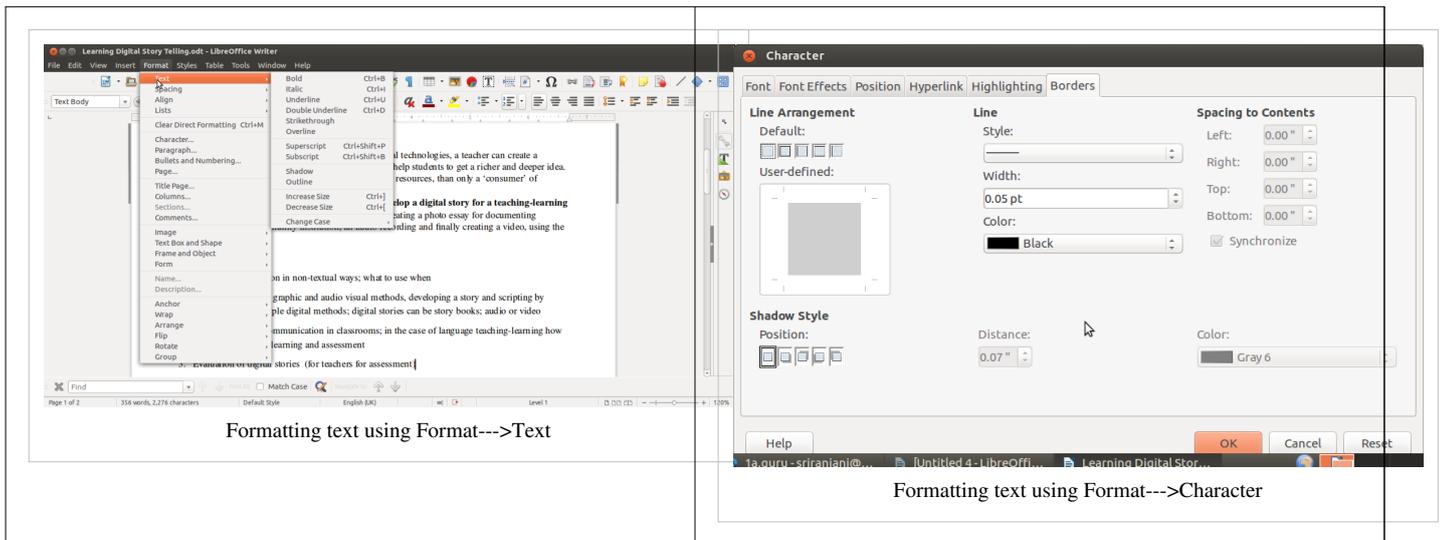
- Why Digital Story Telling
- Introduction to Digital Story Telling
- Creating a simple text story
- Adding a concept map on 'Digital Story Telling'

UNICODE font

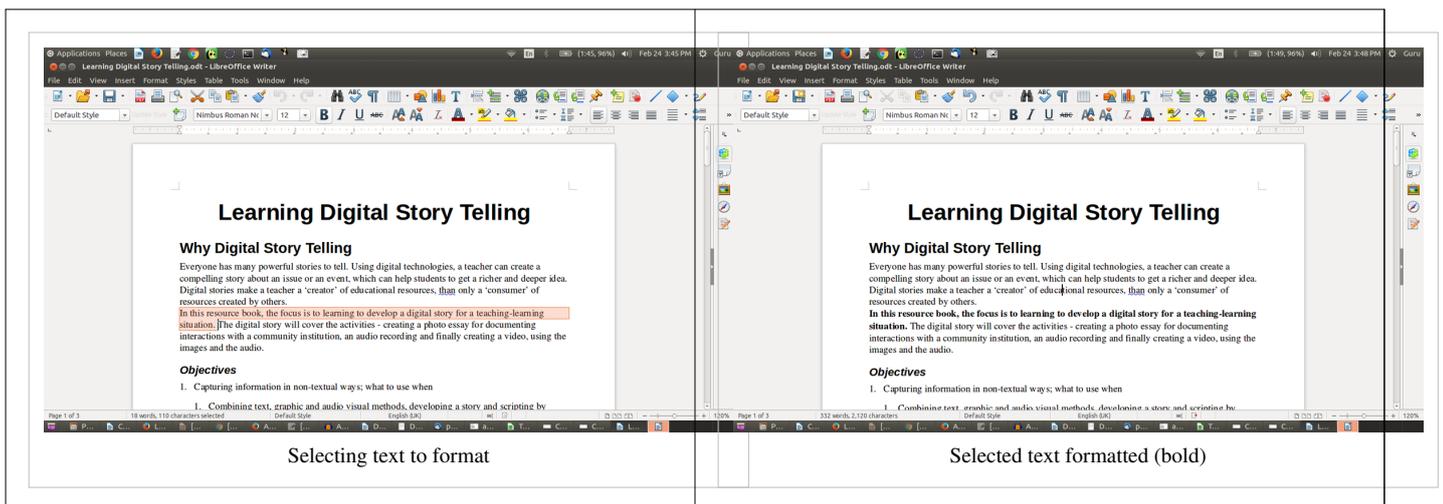
It is important that you choose only UNICODE font (https://en.wikipedia.org/wiki/Unicode_font) for the text entry. Non-UNICODE fonts are likely to not render correctly on a web page. Ubuntu GNU/Linux uses only UNICODE fonts, hence you will not have any problems. However if you are using Microsoft Windows, your system may have non-UNICODE fonts, which you should not use.

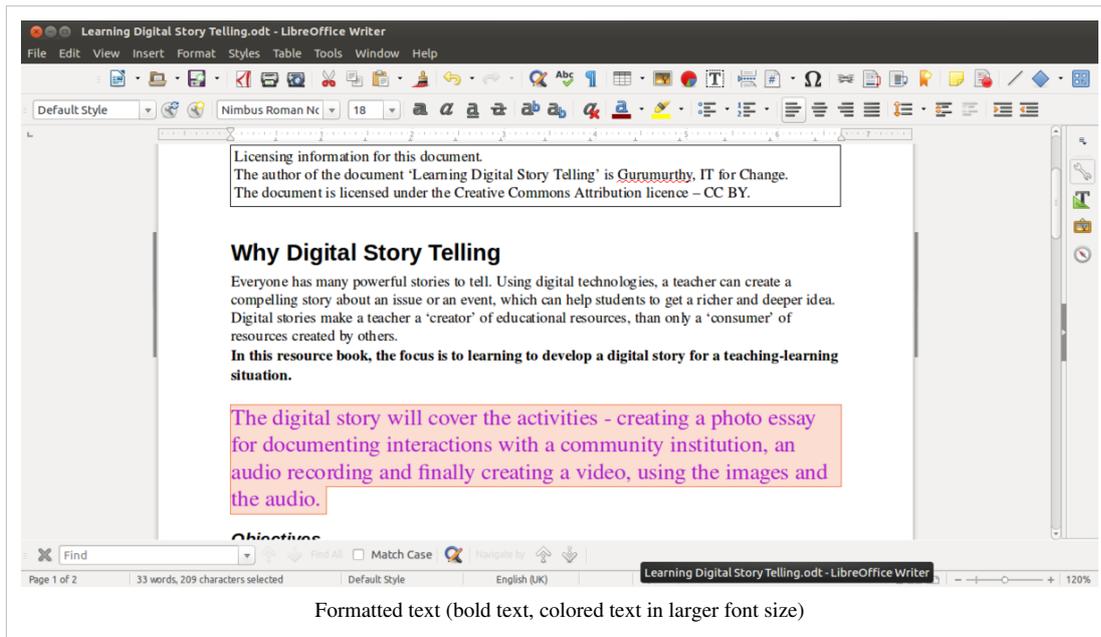
Formatting text

You can format your text in many ways either through **Format--->Text** or **Format--->Character** or by changing the parameters on the tool bar. Click on the Format menu option of LibreOffice Writer to see the options. Commonly used formatting includes selecting text to highlight it through the 'bold' 'italic' or 'underline' functions, changing the font color or size and adding text highlighting. All these functionalities are also available on the tool bar.



Here we will take a section from our document and format to make it bold, italicized or underlined. Remember to select the text before clicking on these options.



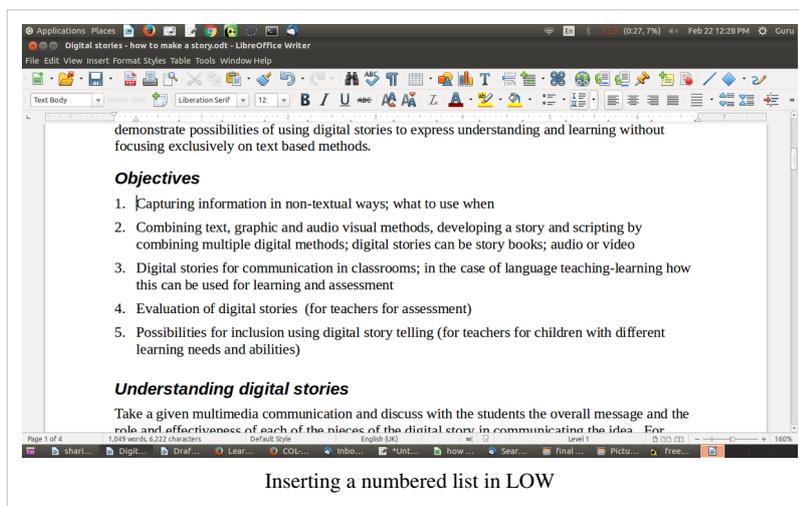


Inserting a numbered list

You may be making a list of items in your document. Instead of manually entering the numbers, you could use automatic numbering.

You can select Format → Bullets and Numbering and select the numbering type you want.

In our document, we have created a numbered list under Objectives.



Objectives

1. Capturing information in non-textual ways; what to use when
 1. Combining text, graphic and audio visual methods, developing a story and scripting by combining multiple digital methods; digital stories can be story books; audio or video
2. Digital stories for communication in classrooms; in the case of language teaching-learning how this can be used for learning and assessment

Hit the 'enter' key to go to the next line with the next number. For indenting and sub numbering, you can use the 'Tab' key.

Inserting a table / box item

You may want to put a specific information inside a box to highlight it separately. You can also use box to provide additional information, which the reader may skip, if they want to

read the article quickly.

You can select Table. Select number of rows and number of columns as '1'. You will get a box (which is nothing but a table with one row and one column). Enter your text in this box.

In our document, we have created a box for providing the license information for the document.

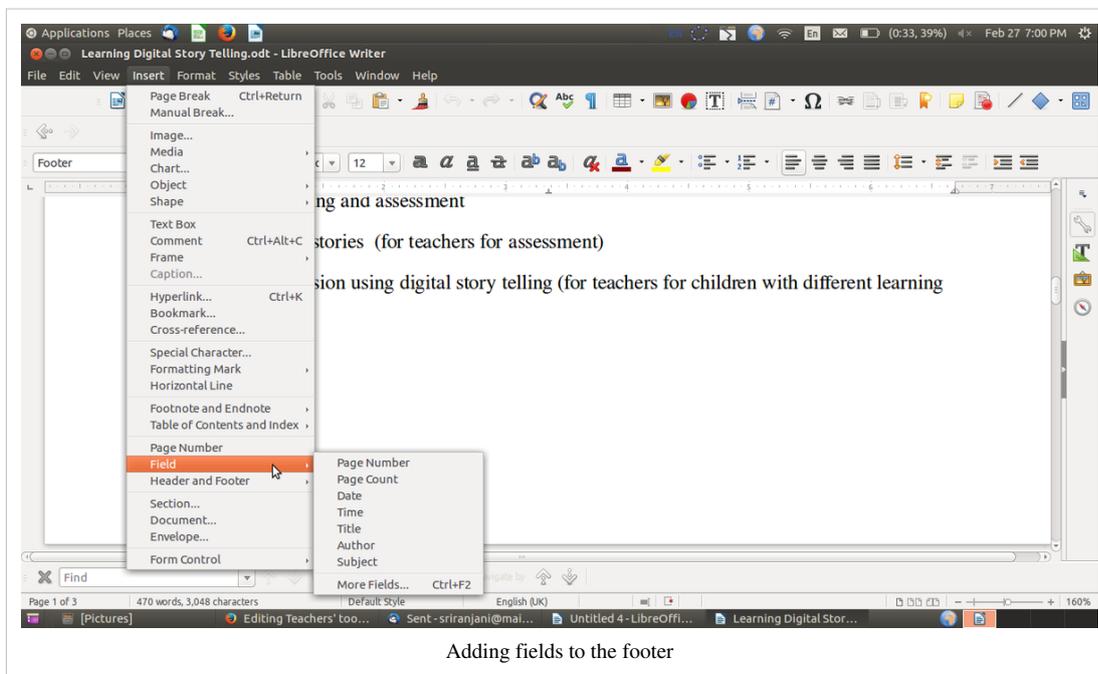
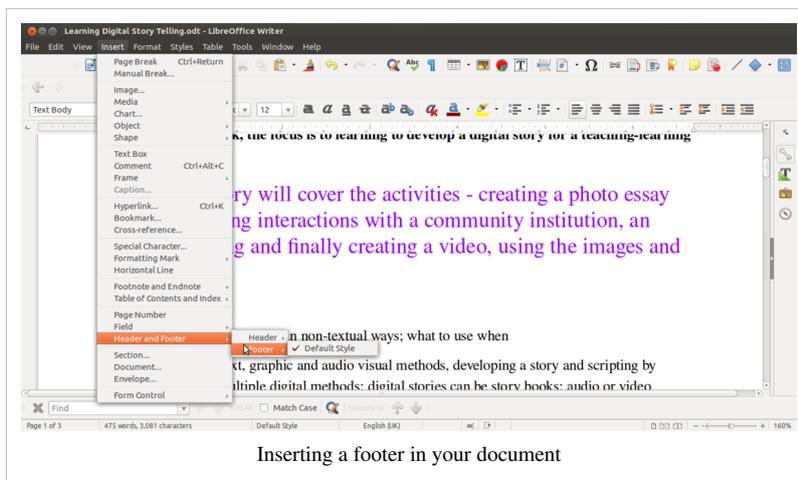
<p>Licensing information for this document. The author of the document 'Learning Digital Story Telling' is Gurumurthy, IT for Change. The document is licensed under the Creative Commons Attribution licence – CC BY.</p>
--

You should create a box for providing similar license information for your document. You can insert this box at the beginning of the document.

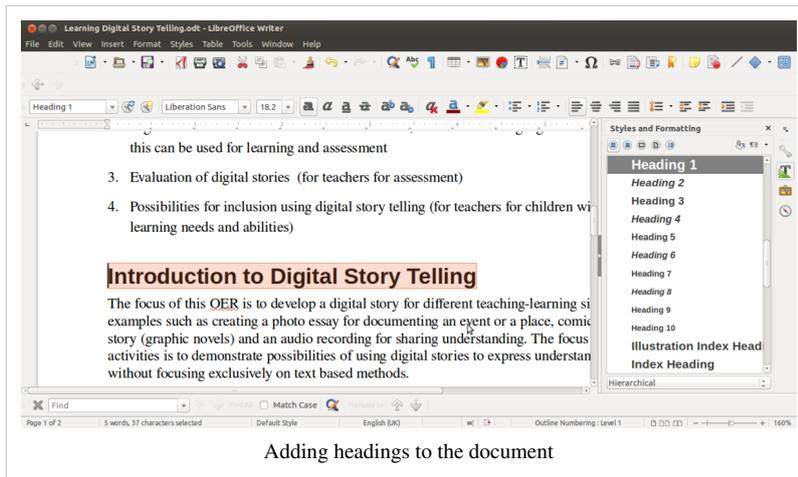
Insert footer (automatic page numbers)

It is useful to have page number and name of your document on every page, this is specially useful if the reader wants to read a print copy. LibreOffice Writer allows you to easily insert this information at the bottom or top of each page. This can be done using **Insert--->Footer**. Once a footer has been inserted, you can go to the bottom of the page and insert multiple fields of information using **Insert--->Fields**. You can type any text in this footer, it will come on all pages. Other than page number, other dynamic information you can provide is the date/time stamp of the document. A similar method can also be adopted for inserting a header as well. Page numbers can also be inserted directly using **Insert--->Page Number**.

In our document, we have inserted the document name and page number in the footer.



Insert section headings



It is sometimes useful to create sections in a document to allow for easy reading and referencing. This can be done using the **Styles-->Styles** and formatting option. Select the text you want to mark as a section and then go to the **Select the heading level (Heading 1, 2, 3, etc)** you want to set it at. Headings can be at multiple levels to indicate sub-points. You should create similar section headings in your document.

Continuing editing text OER

You can re-open this file from this folder anytime to continue editing your text document using LibreOffice Writer. You can add, move, modify and remove text. You can format your text in different ways. In this way, you can keep enhancing your text OER on your topic regularly.

Note that this tool-kit is not intended to provide the complete user manual for the applications explained. The aim here is to get you started with OER creation using the tool. For advanced functions, you should refer to the User Manual for the application. The LibreOffice Writer User Manual is available on https://help.libreoffice.org/Writer/Welcome_to_the_Writer_Help

Short videos on LibreOffice Writer are available on http://spoken-tutorial.org/tutorial-search/?search_foss=LibreOffice+Suite+Writer&search_language=English. Each video is less than 10 minutes and focuses on select features of the application.

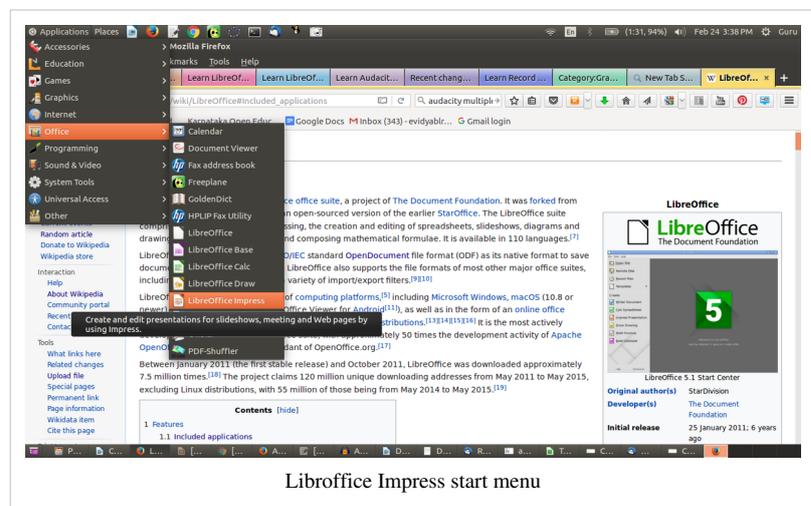
Creating a slide presentation (*LibreOffice Impress*)

A slide presentation is a useful method of sharing information, or in training or teaching. While a text document is useful as a descriptive resource, a presentation can be more useful as a summarized view. A presentation can be created from scratch or as a summary of a text OER. Like in a text document, you can embed images, audio links, video links in the presentation. You can do a 'slide show' of this presentation.

We create a slide presentation - 'Learning Digital Story Telling' using *LibreOffice Impress* (LibreOffice Impress). Open LibreOffice Writer on your computer, through **Applications** → **Office** → **LibreOffice Impress**.

You will learn the following basic functions in LibreOffice Impress which you need to use in creating OER.

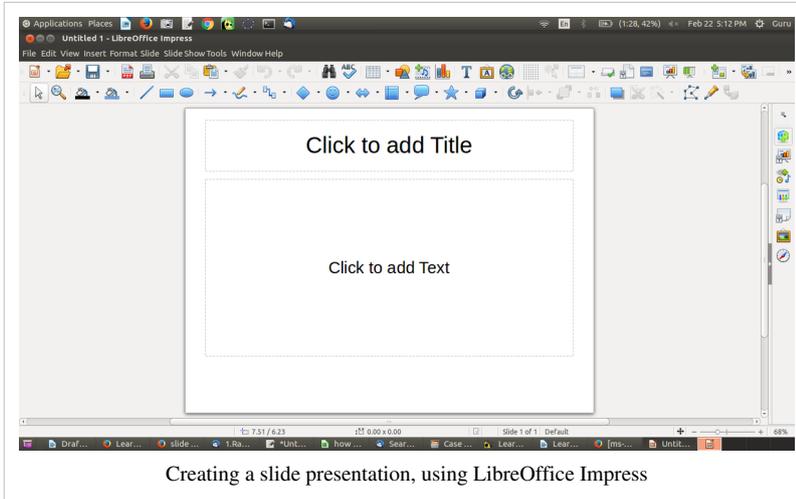
1. Managing slides
2. Entering text
3. Formatting text



4. Inserting a numbered list
5. Inserting a text box

Managing slides

A slide presentation is a document that consists of slides, each slide can be considered as a 'page' which will contain a coherent set of information, usually presented as bulleted points.

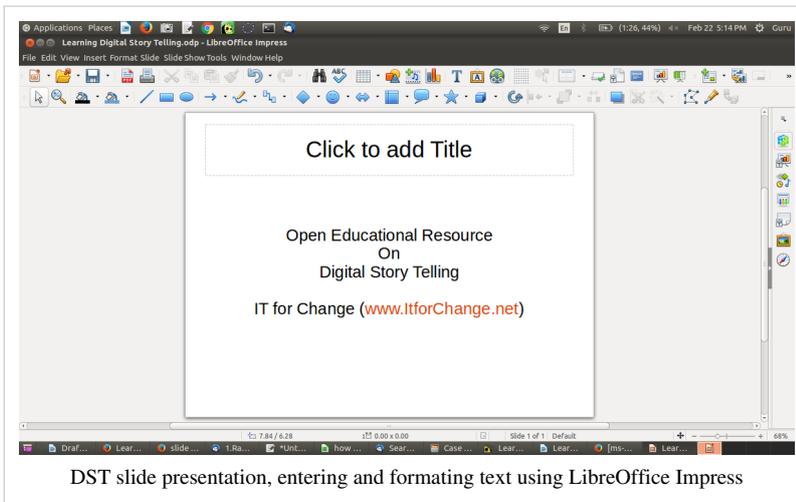


Creating a slide presentation, using LibreOffice Impress

You can create a slide presentation with as many slides (Slide → Create New slide) as you want using LibreOffice Impress. You can duplicate a slide (Slide → Duplicate Slide) if you want to create a slide using the contents (or the format) of another slide. You can move slides across using the drag-drop in the slide sorter view (View → Slide Sorter).

Entering text, formatting text, inserting a numbered list and inserting a text box

A useful feature of the LibreOffice suite is that the Writer and Impress products are fully integrated and have the same interface.

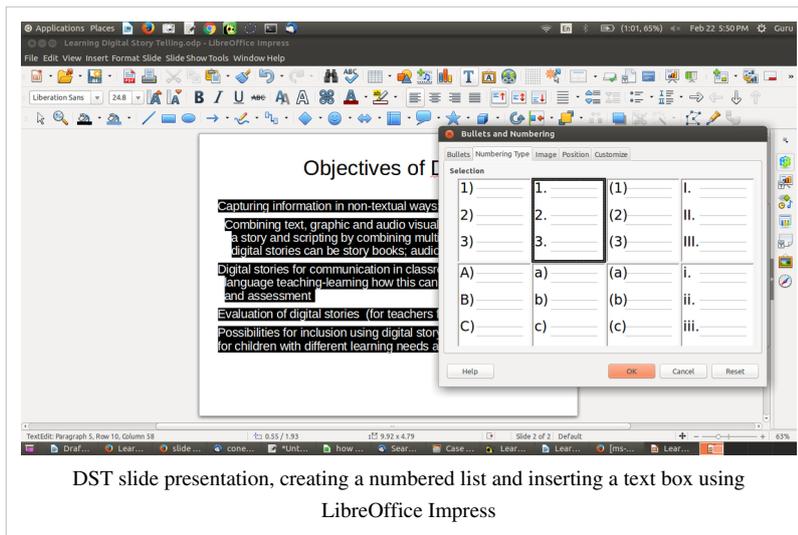


DST slide presentation, entering and formatting text using LibreOffice Impress

When you select File → Open, you get to choose if you will create a text file or a presentation file. Hence, these four functions mentioned above for LibreOffice Impress are identical to perform as was explained in the LibreOffice Writer section.

In our slide presentation, we have entered text (by simply typing the text) and formatted text (changed font colour – Format → Character → Font Effects → Font color) on the first slide.

In the second slide, we copy pasted the objectives from our text file. We created a numbered list (Selecting the text and then → Format → Bullets and Numbering → Numbering Type).



We have also inserted a text box (Insert → Shape → Basic → Rectangle) at the bottom of the slide and typed the text 'Can you suggest more possible objectives of DST?'. The background colour in this box is blue, to change the colour, select Format → Style → Edit Style → Area. Select the colour you want (white is a good background). Similarly, if you do not want a border for the text box, you can remove it. Select Format → Style → Line → Style → None.

Text OER editors on other platforms

1. Freemind is an alternative to Freeplane for making concept maps. Its features and interface is similar to Freeplane.
 2. An alternative to LibreOffice for creating text resources and slide presentations is OpenOffice.org. OpenOffice.org also has a similar Writer and Impress applications.
 3. gedit is a plain text editor. If you are copying content from a website into your LibreOffice Writer document and the formatting will get lost. You could instead copy from the website and paste into a gedit file and then copy from the gedit file to your LibreOffice Writer document, this will remove all formatting and help you organize the text more easily.
 4. LibreOffice Writer is also available on Microsoft Windows, on <http://www.libreoffice.org/download/download>. LibreOffice Writer is part of the LibreOffice suite on Windows. Wikipedia has more information about LibreOffice Writer.
 5. LibreOffice Impress is also available on Microsoft Windows, on <http://www.libreoffice.org/download/download>. LibreOffice Impress is part of the LibreOffice suite on Windows.
 6. Short videos on LibreOffice Impress are available here (http://spoken-tutorial.org/tutorial-search/?search_foss=LibreOffice+Suite+Impress&search_language=English).
 7. In Android Mobiles we can view text documents through "OpenDocumentReader" App or WPS Office App
- See Annexure for more information on alternative applications and platforms.

Image and animation OER

One of the most important advantages of OER is the possibility of creating resources in multiple formats - images being one of them. Either used standalone, or in a sequence as an animation or in combination with text to create powerful picture stories for communication. With increasing use of ICT in the form of multiple devices, creating and editing and remixing image resources is becoming more and more prevalent. Availability of free and open source tools for creation and re-purposing of image resources can be important for greater dissemination of image and animation OERs. This chapter will focus on accessing image repositories, tools for creating image OER, editing image OER, remixing image OER with other formats and publishing.

In this chapter, you will learn

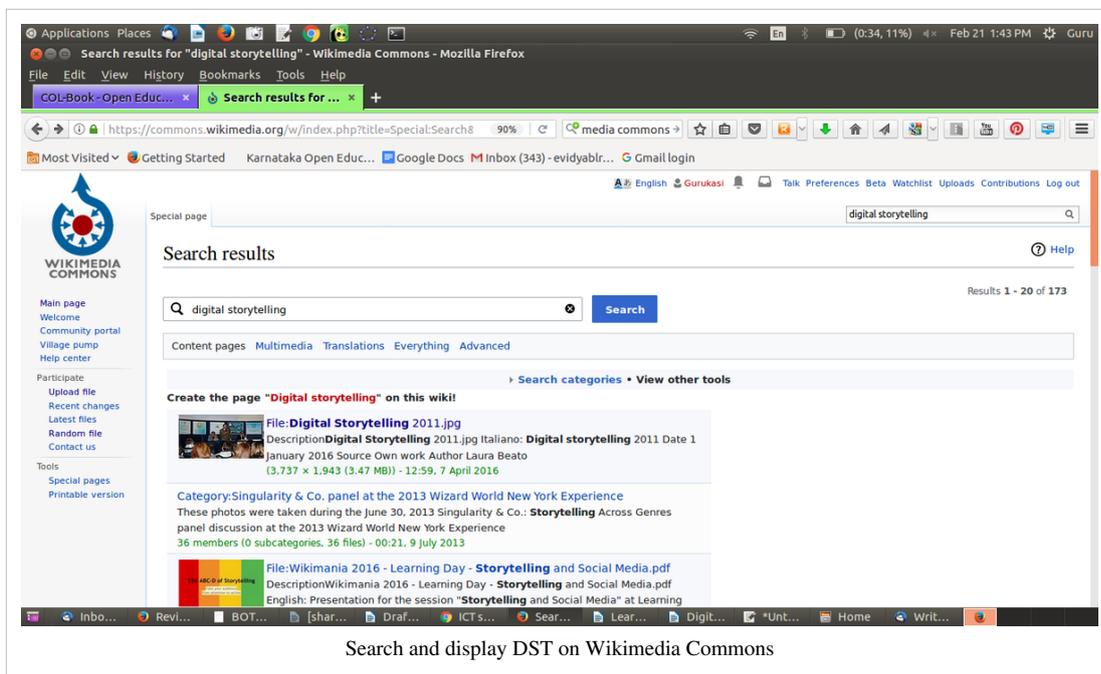
1. about popular repositories for accessing image OER
2. how to create image OER using your camera (*on your feature mobile phone*)

3. how to create image OER using a drawing tool (*Tux Paint*)
4. how to create a simple animation OER (*Tux Paint*)
5. how to create image OER using a screen capture tool (*Screenshot*)
6. how to edit image OER using an image editor (*GIMP*).
7. how to embed / insert images in a text document to create a picture story (*LibreOffice Writer*)
8. how to present image resources in a 'slide presentation' format (*LibreOffice Impress*).

Accessing image OER repositories

Searching from known repositories

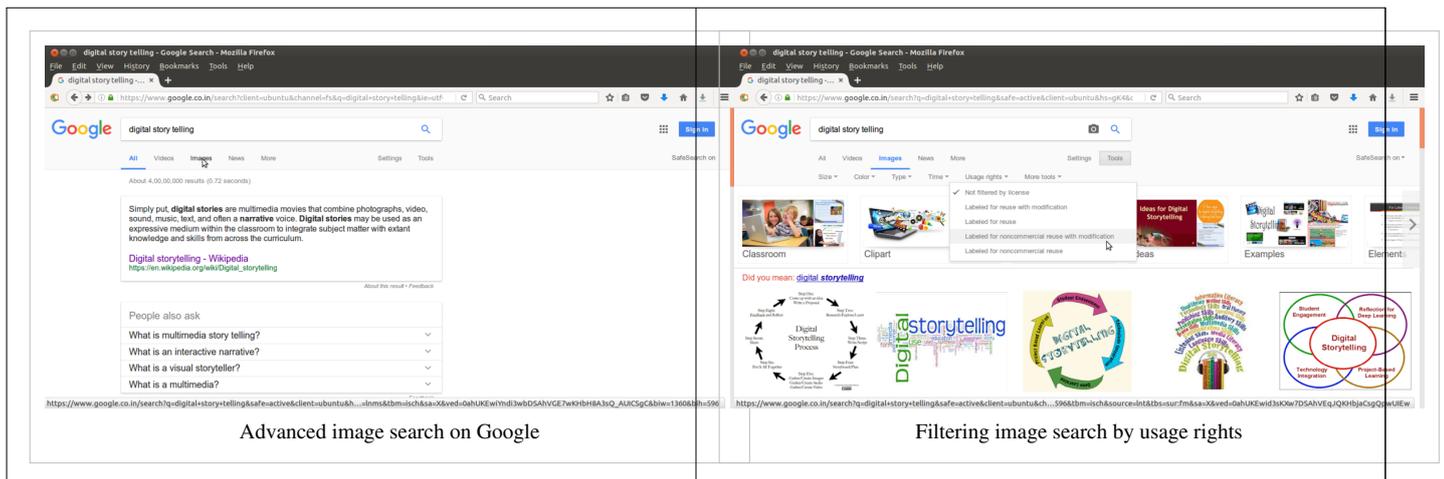
Like Wikipedia (<https://en.wikipedia.org>) is a popular text OER repository, Wikimedia commons is a repository of media (images, audio and video). You can search for your topic in Wikimedia Commons, by simply typing the topic name in the search bar. We will do this for 'Digital Story Telling' (DST) which is the OER being created as an exemplar in this toolkit. Flickr (<https://www.flickr.com/creativecommons/>) is also another popular source of OER images



Search and display DST on Wikimedia Commons

Search the web for image OER

You can use a search engine such as Google search engine (<https://google.com>) or DuckDuckGo (<https://duckduckgo.com/>) search engine, using a FOSS web browser such as Mozilla Firefox (<https://www.mozilla.org/>) to search for image OER. You can search for images relating DST to simply typing in Digital Story Telling in the search bar of the search engine and selecting the 'Images' link. As in the case of text, you can select images that are licensed for reuse by specifying the search settings.



Creating image resources

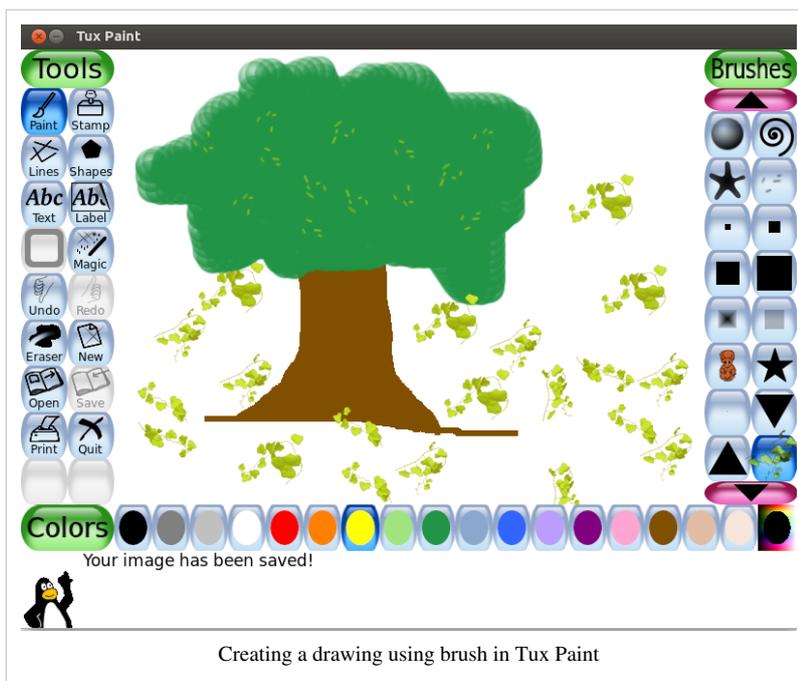
Using your camera

A simple and easy way to create an image OER is to take a photo of the object you want an image of, using your camera or a mobile phone. Of course this will apply only where the topic is such that you have objects you can take a photo of. Sometimes an image can also be a digitization of hand-drawn images or paintings. Digitized representations of student drawings or paintings can be a useful collection of image OER. These photographs can be edited for further re-purposing as OER. Usually images are stored in .jpeg or .png formats.

Note – Taking a photo of a copyrighted material (such as a photo), is a violation of the copyright law, with exception given for ‘fair use’. For more information on what you can photograph and cannot, read the WIPO advisory (http://wipo.int/wipo_magazine/en/2006/02/article_0010.html). Wherever possible, you could take permission of the copyright holder to use an photo of the material.

Using a drawing software (*Tux Paint*)

You can also use a drawing software application to draw an image. Open Tux Paint on your computer, through [Applications → Education → Tux Paint](#)



The screen contains two tool bars on either side of the drawing canvas. The left side tool bar contains drawing and editing controls. The right side tool bar provides the various options for the specific tool that you select on the left side tool bar. For e.g., when the "Paint brush" tool is selected on the left tool bar, it shows the various brushes available on the right tool bar. When the "Rubber Stamp" tool is selected on the left tool bar, it shows the different stamps you can use, on the right tool bar. At the bottom, you can see a palette of colours. Below this, at the bottom of the screen, Tux, the Linux Penguin, provides tips and other information while you draw.

You can use the 'brush' tool, select the brush and the colour you want and paint on the drawing canvas. You can use the stamps for drawing / inserting predefined shapes into the canvas. The left tool bar also has an eraser in case you want to erase any part of your drawing.

Tux Paint is a very simple and easy to use application. You should familiarize yourself with the tool options by simply using them, in your drawing work.

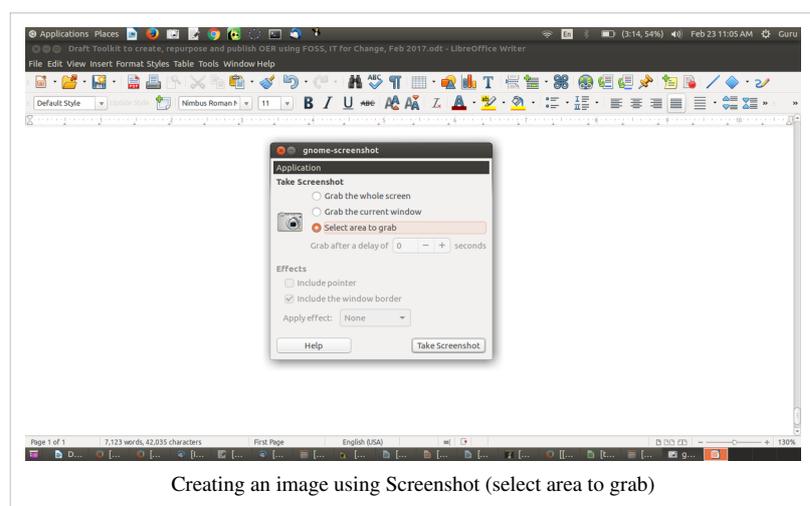
The files created by you, are stored in the `home/.tuxpaint/saved` folder, in the 'png' format. To open the `.tuxpaint` folder, you may need to select the 'view hidden' files in the `/home` folder on Ubuntu. The file name will begin with 'year+month+date' in YYYYDDMM format, followed by a serial number.

You should also create a drawing on an issue connected to your topic. One possibility is you could use any image you found as a reference, and draw it using Tux Paint.

Creating image resources using a screen capture tool (Screenshot)

One of the simplest and yet very powerful ways of creating an image is to simply take a picture of your computer screen. You may have opened a web page on which there is an image or some text you want to store as an image, or it may be from a file on your computer, or it may be a snapshot of a video you are playing.

You can use the tool Screenshot for this. Open Screenshot on your computer, through [Applications](#) → [Accessories](#) → [Screenshot](#)



Creating an image using Screenshot (select area to grab)

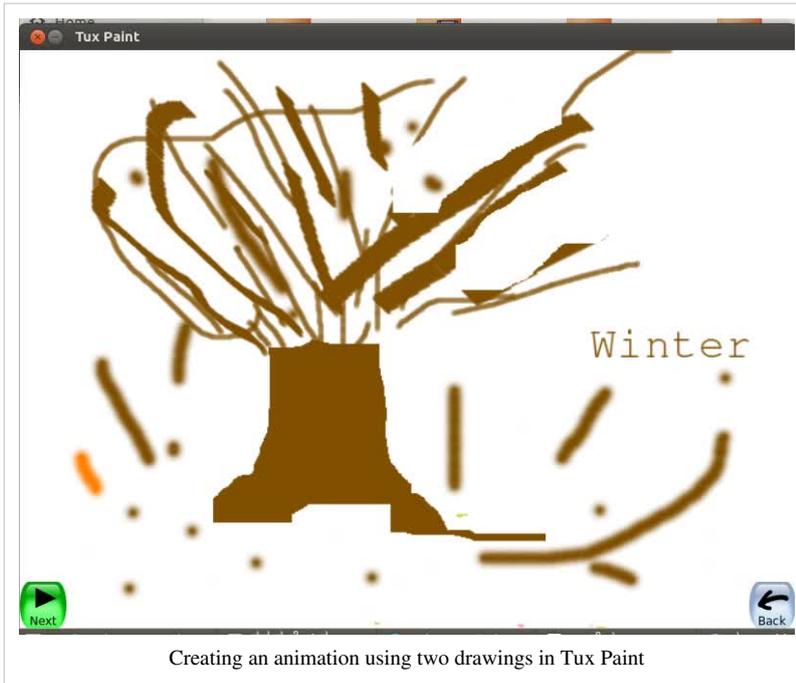
You have an option of capturing the entire display on your screen or selecting a smaller area. For the latter option, chose 'select area to grab', as shown in the image. Then use your mouse to drag drop the (rectangular) area you want

to capture. (Move your cursor to the left top of the area, keep your left mouse click pressed, move the cursor to the right bottom point and release it).

You can thus easily create an image OER using Screenshot of an image from your computer or the web. As mentioned earlier, taking a photo of a copyrighted material (such as a photo), is a violation of the copyright law, with exception given for 'fair use'.

Creating a simple animation (*Tux Paint*)

Tux Paint allows you to create simple animations by letting you create a slide presentation of a set of images. You can save the image you drew. Make small changes to it and save it as a new file. You can then 'play' the two photos in a recurring manner to create a simple animation. Your animation can have as many images as you like.



We have created two drawings of a tree, one without fruits (shown in previous section) and one with (below). The second one is created simply by painting small fruits on the earlier painting and saving the same. Playing these two images recurrently in Tux Paint creates a simple animation of the changes in the tree over the seasons.

Creating and editing image resources using an Image editor (*GIMP*)

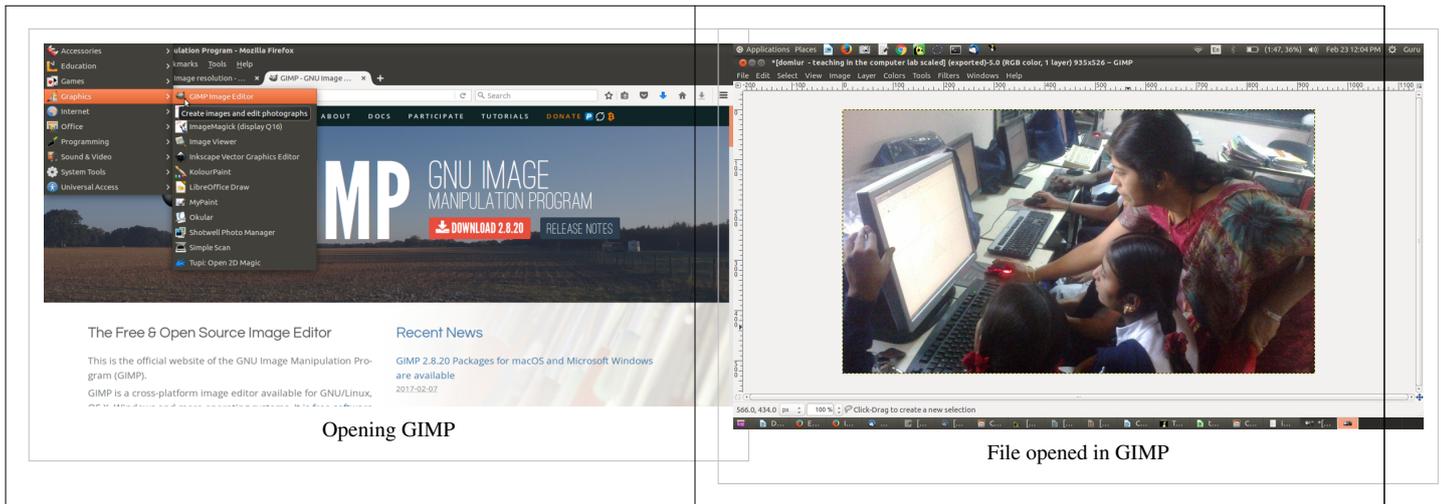
Whether we capture using camera or an application called TuxPaint or Screenshot, the images have been captured digitally based on the

resolution of the computer or mobile screen; this is indicated in terms of pixels. Such images are called raster images and they are dependent on the resolution of the device for their quality. All raster graphics or images are those that involve capturing some underlying image or object using various devices. For more information on raster images, see here (https://en.wikipedia.org/wiki/Raster_graphics). GNU Image Manipulation Program (GIMP) is an image editing software, that can edit and make raster images. There is another kind of digital image called the vector graphics (https://en.wikipedia.org/wiki/Vector_graphics) which is not discussed in the toolkit. Vector graphics or images involve creating drawings based on defined geometrical information; this can be defined in terms of the shapes and is not governed by the resolution of the device. Inkscape is a tool that can be used to create and edit vector images.

GIMP can be opened from Applications--->Graphics--->GIMP Image Editor. GIMP stands for GNU Image Manipulation program. GIMP is very powerful with many sophisticated features. We will learn a few commonly used functions in image editing:

1. Cropping an image
2. Adding text to an image
3. Reducing the size of an image

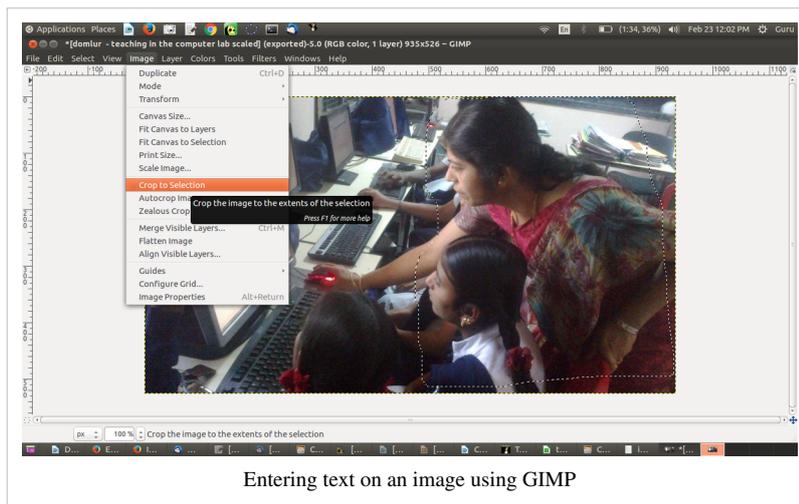
Once you have opened the GIMP application, open the image you would like to edit. You can see the menu bar providing different options for editing the image.



Short videos on GIMP are available on http://spoken-tutorial.org/tutorial-search/?search_foss=GIMP&search_language=English. Each video is less than 10 minutes and focuses on select features of the application.

Cropping an image

Often, you want some part of a larger image to re-use in a different resource. GIMP allows you to select parts of an image - in different shapes or even using a freehand selection to select parts of an image.

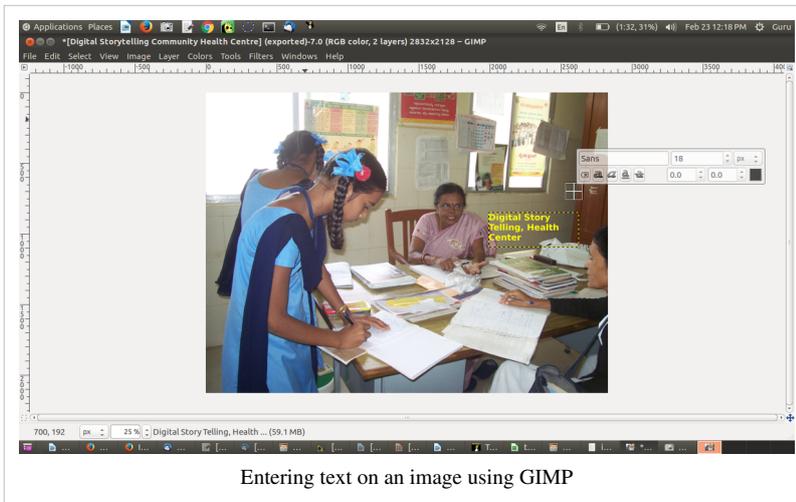


This is different from a screenshot where you can only grab an area that is in the shape of a rectangle. You can select parts of an image from **Select Tools** → **Selection Tools** → **Free Select**. You can move your cursor on the image to outline the area you want to crop, this is free hand, not necessarily in the form of a rectangle. Then crop the image to your selection through **Image** → **Crop to Selection**. We have cropped the image to free select only the teacher and the student (see the dotted line).

You can export this cropped image using **File** → **Export as** and export to an image format like .png or .jpeg.

Adding text to an image

You may want to add a caption to an image and make that caption a part of the image itself. You can do this using GIMP



Entering text on an image using GIMP

Select **Tools** → **Text**. A text tool box appears.

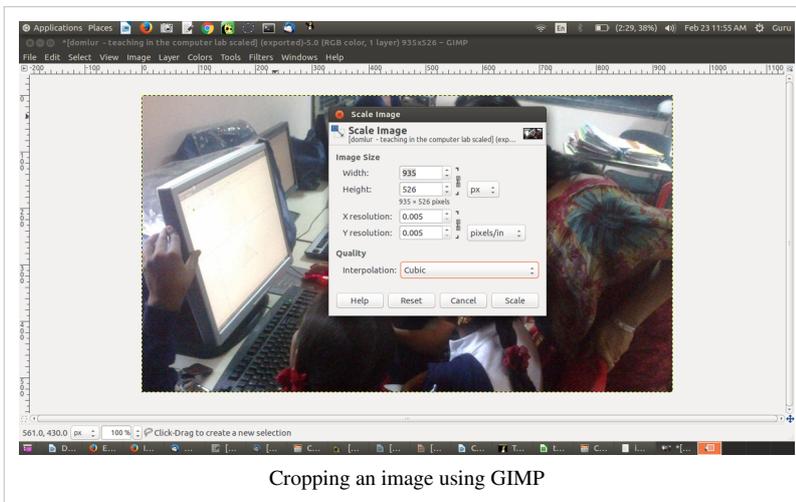
Place your cursor where you want to type your text. You can format the text (change font size, colour) through the Text tool box.

In our image, we have added the text 'Digital Storytelling, Health centre' and selected the yellow colour for the text, since it will display better against a dark background. (Tip - the text should be in a colour contrasting with the background, for easier visibility). You

too should enter captions on a few image resources which you have created for your OER, in this section.

Reducing the size of an image

Sometimes image files can be heavy (compared to text only files). You can reduce the size of an image using GIMP. Select **Image** → **Scale image**.



Cropping an image using GIMP

You can reduce the resolution in the form that opens. The more you reduce the resolution, the greater the reduction of file size.

You should then over write the file, **File** → **Overwrite** <your file name>.

GIMP will open a form asking for reduction in quality. You can reduce quality up to 30% without visible degradation in quality. We reduced the size of a file from 10.7MB to 1.2 MB using above approach.

Combining images and text

Inserting images in a text document (*LibreOffice Writer*)

One of the ways of making OER powerful and high quality is by suitably integrating multiple resource formats. Images can be embedded / inserted into a text document. The image and the related text enhance the value of the other in the document.

We have already seen in the previous chapter on text OER how to export a concept map as an image and save in your resource folder. This image of a concept map can be inserted into a text document; we have inserted our concept map on digital story telling into a document on digital story telling. We will open LibreOfficeWriter. (Application -> Office -> LibreOffice Writer) and open the document we have been working on in the previous

Alternative applications and alternative platforms

Please refer to Annexure, for a list of equivalent Free and Open Source Software applications on the GNU/Linux, Microsoft Windows and Android (Mobile phone) platforms and on the web, for image and animation software.

Audio and Video OER

As teachers, you would no doubt appreciate the effectiveness of an audio visual communication. The audio visual format allows expression by people and this is useful for those who may have an inhibition in expressing themselves in written forms. How liberating it might be for a student struggling with the letters to be able to express a piece of creativity with an audio recording! Other than as forms of expression, an audio visual communication can be an effective form of digital story telling and creating community stories around people, events and institutions. With devices like mobiles and sound recorders, creating audio and even video files is becoming easier and more common. Getting familiar with different FOSS tools for creating, re-purposing and publishing audio and video OER can be very useful.

In this chapter, you will learn how to create and re-purpose audio and video OER. You will learn

1. about popular repositories for accessing audio and video OER
2. how to create audio resources using your audio recorder (in your mobile phone)
3. how to edit audio resources using an audio editor (*Audacity*)
4. how to create video resources using your video recorder (in your mobile phone)
5. how to create simple video resource using a screen-casting tool (*RecordMyDesktop*)
6. how to edit video resources using a video editor (*OpenShot*)
7. how to embed / insert links to audio and video resources in a text document (*LibreOffice Writer*)
8. Inserting links to audio and video resources in a 'slide presentation' (*LibreOffice Impress*)

Accessing audio OER repositories

Freesound (<https://freesound.org>) is an audio OER repository. You can search for sounds in this repository. Soundcloud (<http://Soundcloud.com>) is also an audio repository. As in the case of text and image resources, you will need to check the copyright of the audio you want to re-use.

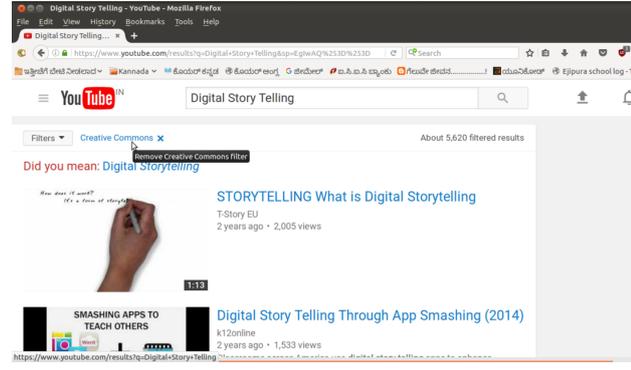
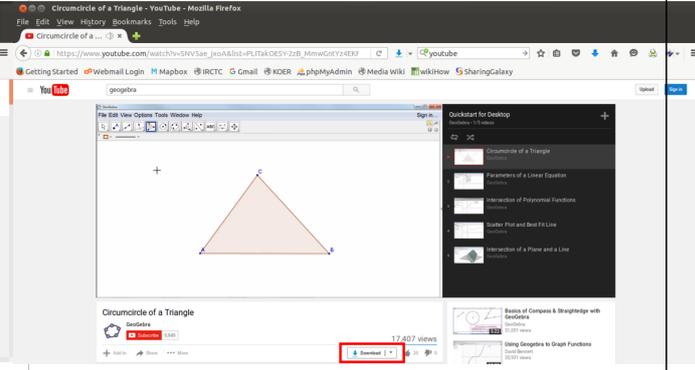
You can use a search engine such as Google search engine (<https://google.com>) or DuckDuckGo (<https://duckduckgo.com/>) search engine, using a FOSS web browser such as Mozilla Firefox (<https://www.mozilla.org/>) to search the web for audio resources. In the search engine, you would need to specify "videos" as a filter for search results.

When you visit the site or check a specific resource, you need to look for copyright information to ascertain that the audio resource is OER and you can re-use it. If the resource is not explicitly declared to be an OER (allowing you to re-use), you should not use it in creating your OER. The search for audio OER is can be made easier by providing OER as a criteria in your search itself.

Accessing video OER repositories

1. Youtube (<http://Youtube.com>) is a popular repository for videos, it contains both OER and non OER videos. It is the largest collection of videos in the world. Note that as per Youtube terms of use (<https://youtube.com/t/terms>), unless you see a "download" or similar link displayed by YouTube on that page, you should not download. But you could use a third party add-on (<https://addons.mozilla.org/en-us/firefox/addon/video-downloader-player>) available in Mozilla Firefox to download videos, which are licensed under creative commons. Wikimedia (<http://commons.wikimedia.org>) is another resource for various media -including audio and video.

- There are other OER video sources too, you can visit, such as Vimeo . Wikipedia has a list of educational video websites. A google search on 'OER Videos' will also give you a list of sites to explore.

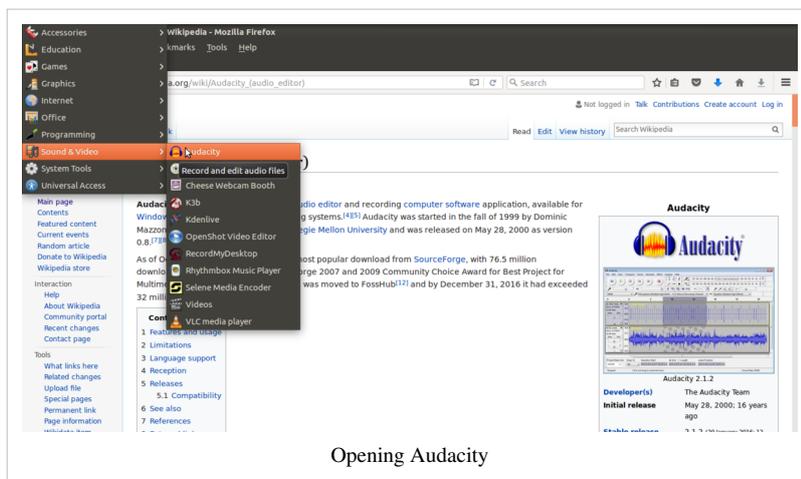
 <p>Selection of CC videos in Youtube</p>	 <p>Downloading of videos in Youtube</p>
<p>You can enter your topic name in the search bar in Youtube to search for videos on that topic. To get videos which you can re-use, you need to click on the 'Filter' link on the Youtube page and select 'Creative Commons', with this step you will see videos that have the CC license (are OER).</p>	<p>You can click on the video, this will open the video and it will begin playing. You can download the video by clicking on the download link below the video. You can download in different formats.</p>

Creating audio resources using your audio recorder

You can record an audio clip using your mobile phone itself, using any audio recording app, such as ' Audio Recorder (<https://play.google.com/store/apps/details?id=com.sonymobile.androidapp.audiorecorder>)'. You can copy the audio file from your phone to your computer for editing and re-mixing to create OER. While recording, make sure that no copyright music or sound is playing in the background. We have recorded a short interview with a teacher on why Digital Storytelling is important, using a mobile phone. We have copied this audio clip to our computer, by connecting the mobile phone to the computer with a data cable and renamed the file as 'Interview - why Digital Storytelling.'

Click to listen to the audio.

Editing audio resources using audio editor - Audacity



You can use Audacity to edit your audio clips. Audacity is a simple yet powerful application for audio editing. You can also use it to record audio. Open Audacity on your computer, through Applications → Sound and Video → Audacity To edit an audio file, we will need to 'import' the audio we have (of the teacher interview) into Audacity. In Audacity, Import your audio into Audacity through File → Open and select your audio file

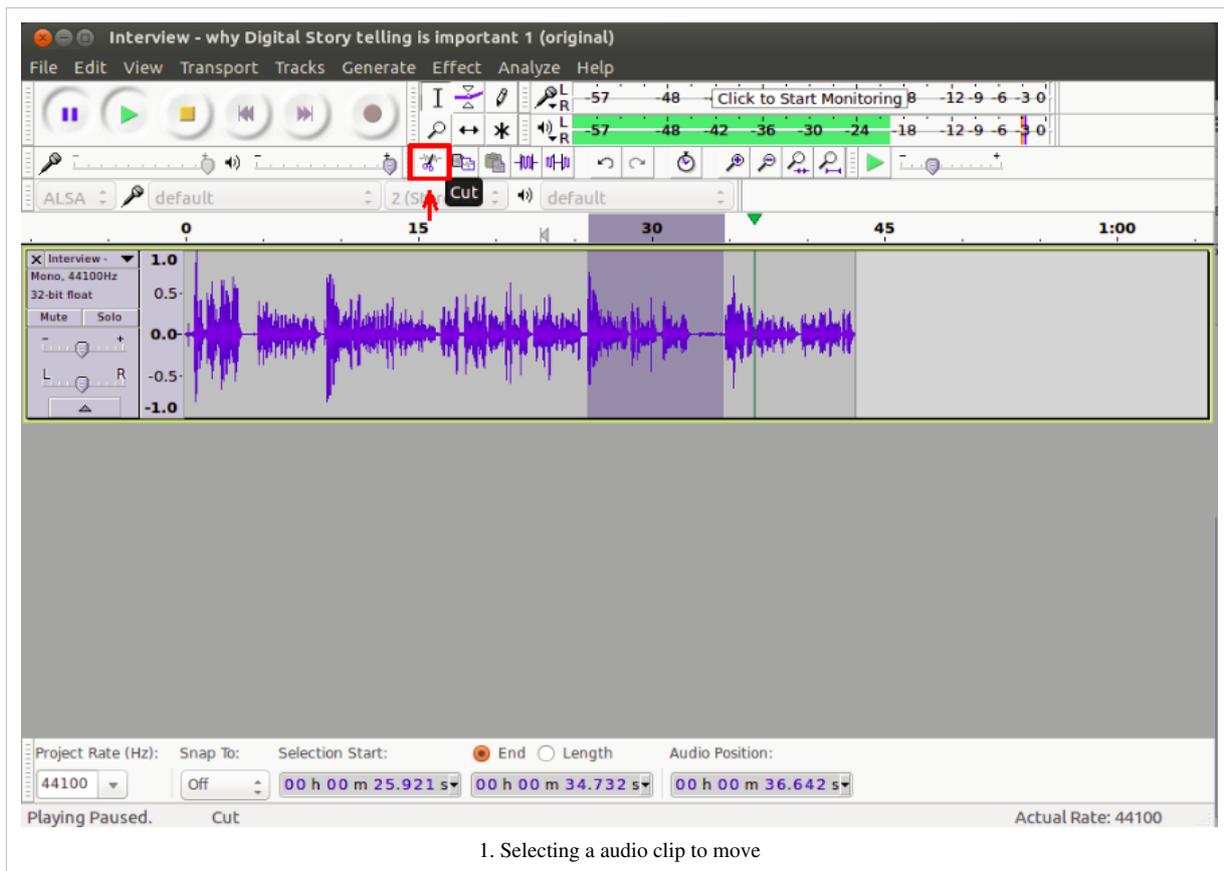
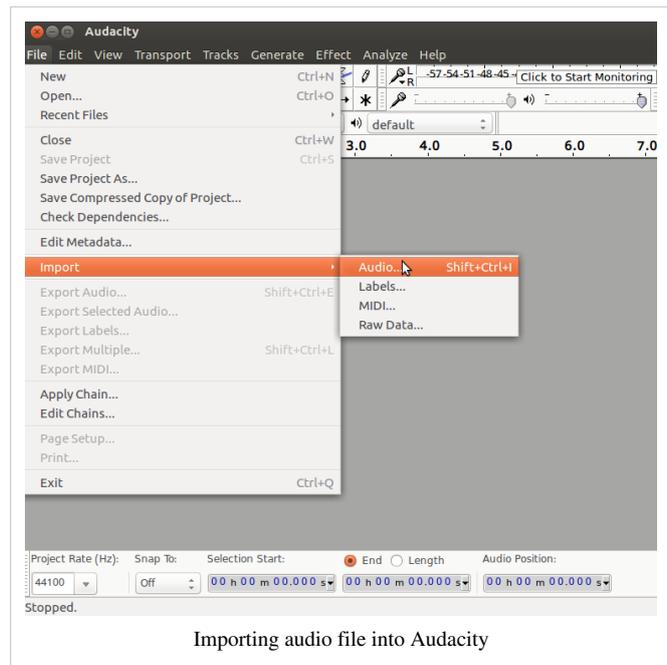
Audacity is very powerful audio editor, with many sophisticated features. For advanced features, refer to the user manual (<http://manual.audacityteam.org>) and tutorials (<http://manual.audacityteam.org/man/tutorials.html>). However, we will learn a few commonly used functions, in audio editing, which are useful to teachers in creating and re-purposing OER:

1. Moving a selection of audio
2. Adding a background music track
3. Reducing background noise levels

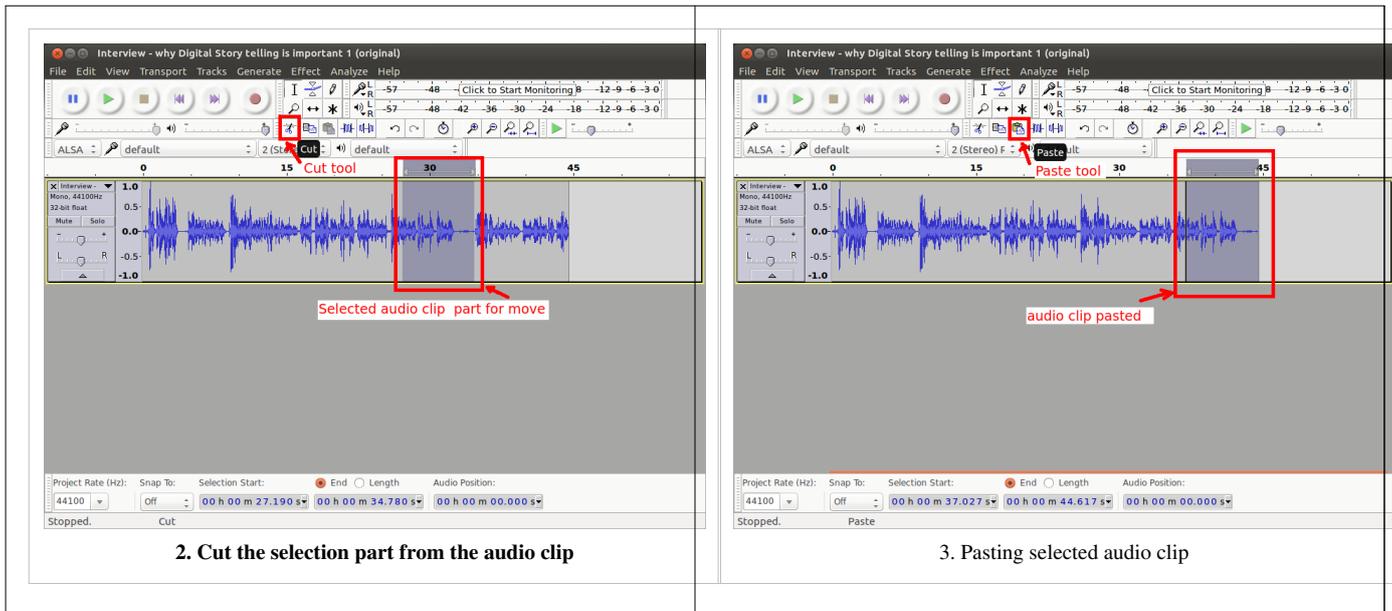
Combining audio clips

Just like you can cut (or copy) paste a selection of text in a text document, you can cut (copy) and paste a selection of audio in an audio file. You can use this function to remove any part of the audio clip

you do not want. You can move a part of a clip from one place to another (for instance if you want to re-order responses in an interview). You can also delete a part of the clip also using the same functionality.



1. Selecting a audio clip to move

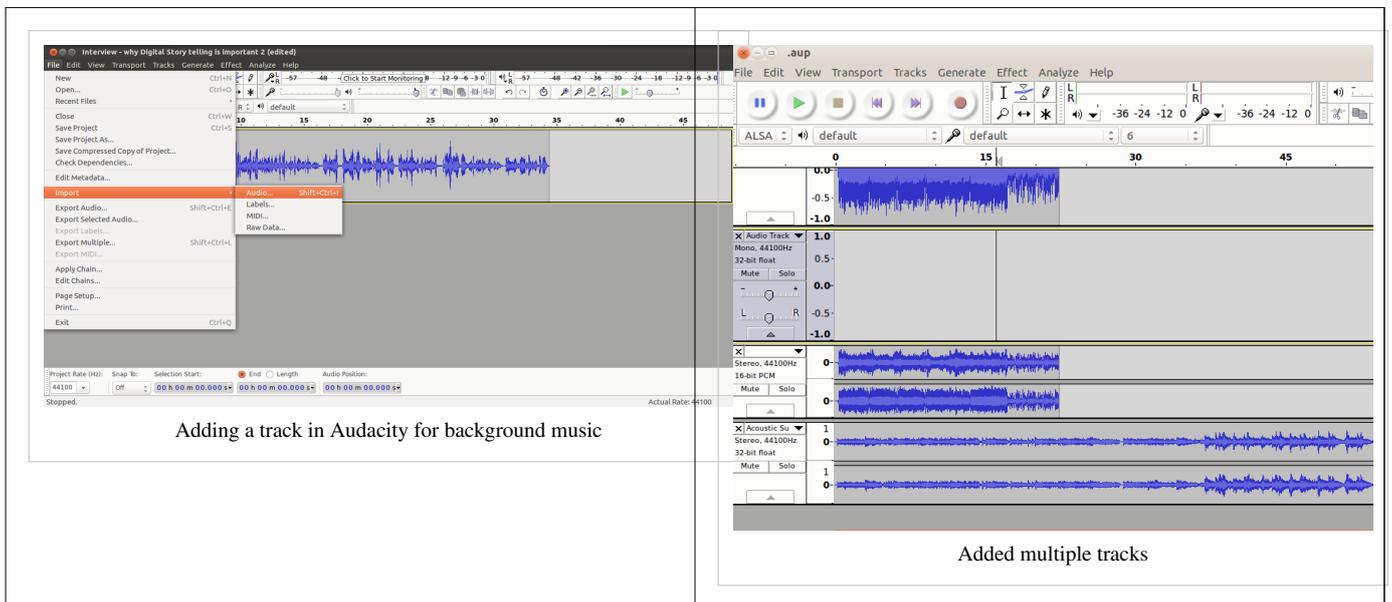


Hear the original audio file

Hear the edited audio file Using audacity we have selected a part of the audio track and moved this part.

Adding background music

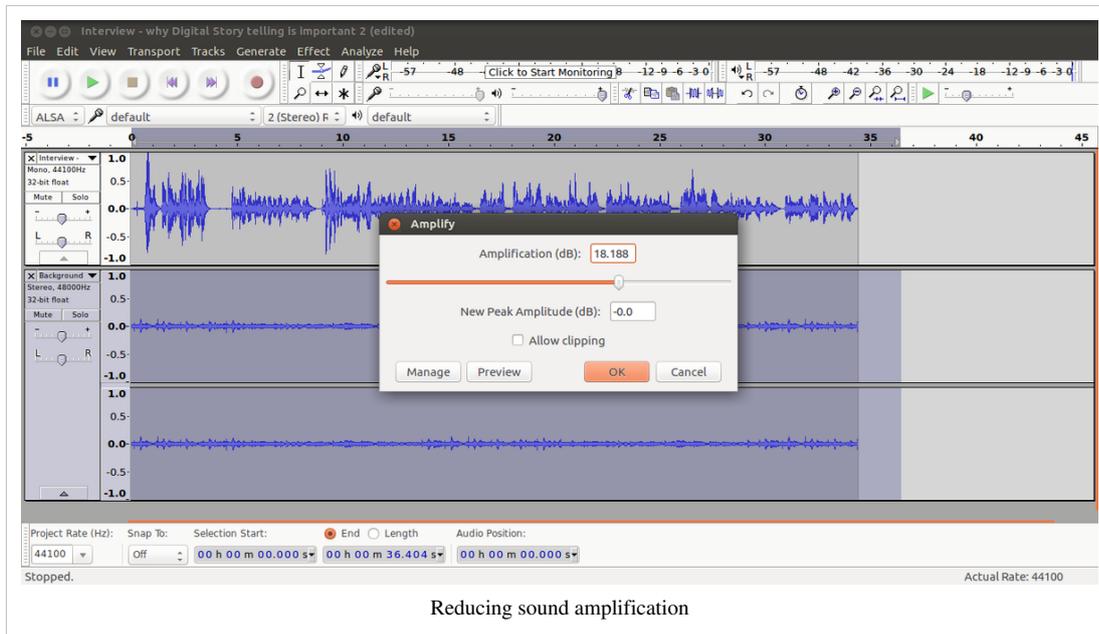
You may want to add background music to an audio recording. It is easy to do this with Audacity. You will add a second track, to which you will add the background music. We can add as many tracks as we want, with one audio file per track.



Audio with background music added :-

Amplifying sound

You can use the 'amplify' function to increase or reduce the sound level in a track. Select **Effect -> Amplify**. Reduce the amplification by moving the slider leftward. Increase the amplification by moving the slider rightward.



Audio file with amplification (sound reduced)

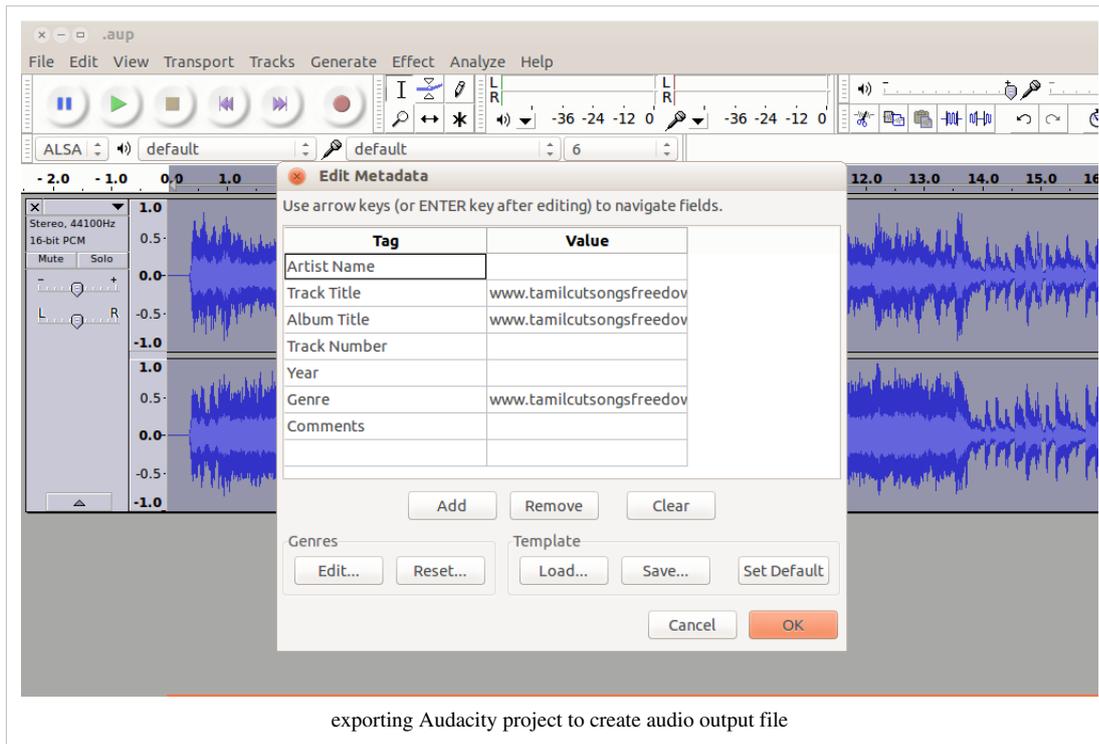
You may have an audio recording where there is some unwanted disturbance throughout, such as traffic sounds. You can use the 'Noise Reduction' function in Audacity to reduce the background noise.

Exporting the Audacity project to create audio output file

After completing your editing tasks, select **File -> Export** and select the file format as MP3 and click export, to create an output audio file in the .mp3 format.

You can also save the Audacity project, for this select **File -> Save**.

This will save the work done as an Audacity project. You can go back to this file (using **File -> Open**) to continue editing



Audacity is particularly useful for a language teacher to create audio resources for language learning.

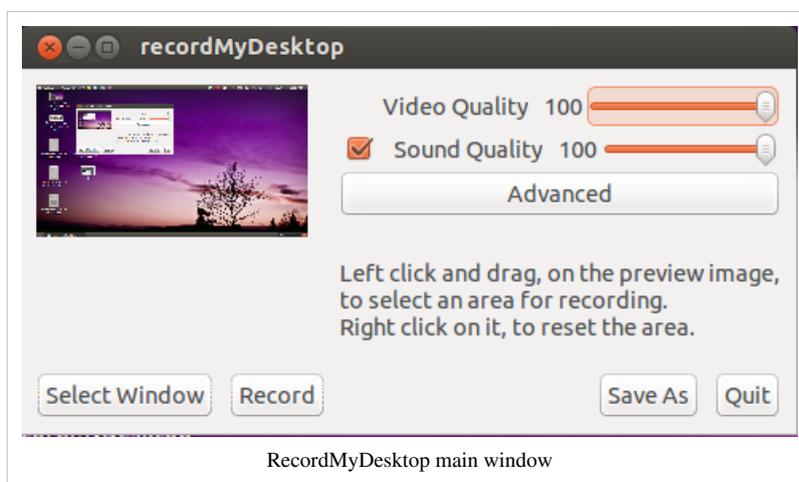
Creating video resources

video resources using your video recorder (*on your mobile phone*)

You can record a video clip using your mobile phone itself, using the camera on the phone. While recording the video, take care to ensure that you are not shooting copyright materials or private spaces. You can copy the video file from your phone to your computer for editing and re-mixing to create OER.

Creating a video resource using a screen-casting tool (*RecordMyDesktop*)

Screen casting is also a very simple yet powerful way of creating a video resource. The RecordMyDesktop software records the computer output display as the video and audio. Additional audio spoken or played during the recording is also recorded as a part of the video.

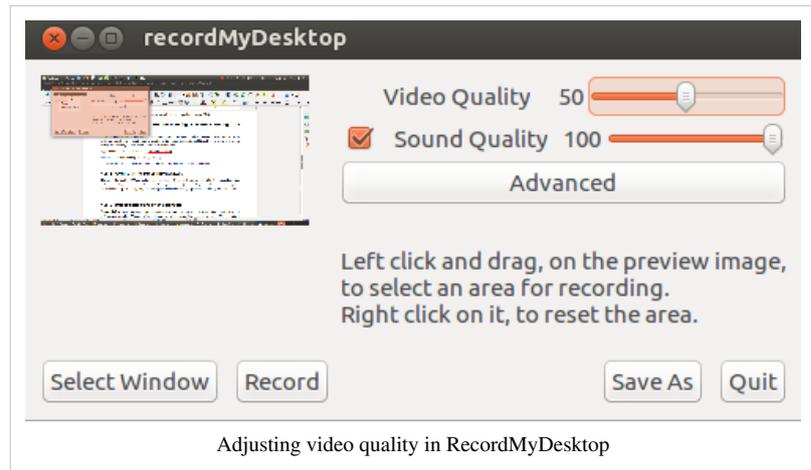


Open RecordMyDesktop, select Applications → Sound & Video → RecordMyDesktop

You can use RecordMyDesktop to create OER videos. Make sure you are not displaying copyright material on the screen when recording the video. If you record any copyright material in the video, it will be a copyright violation.

Configuring recordmydesktop

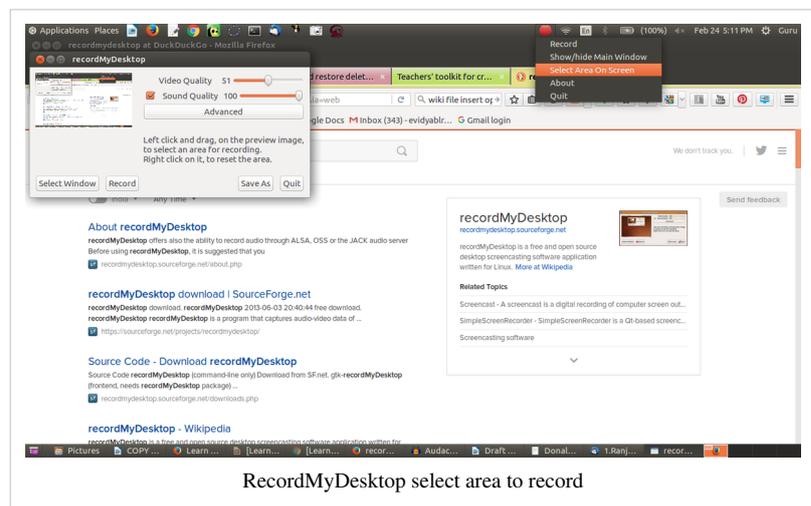
The better the quality of video and audio, the bigger will be the size of recorded file. You can adjust video and audio quality (and consequently size of the output video file) by adjusting the slider near the top right of this window. (Tip - Video Quality of 50% is good enough for most purposes and will keep file size lower).



Adjusting video quality in RecordMyDesktop

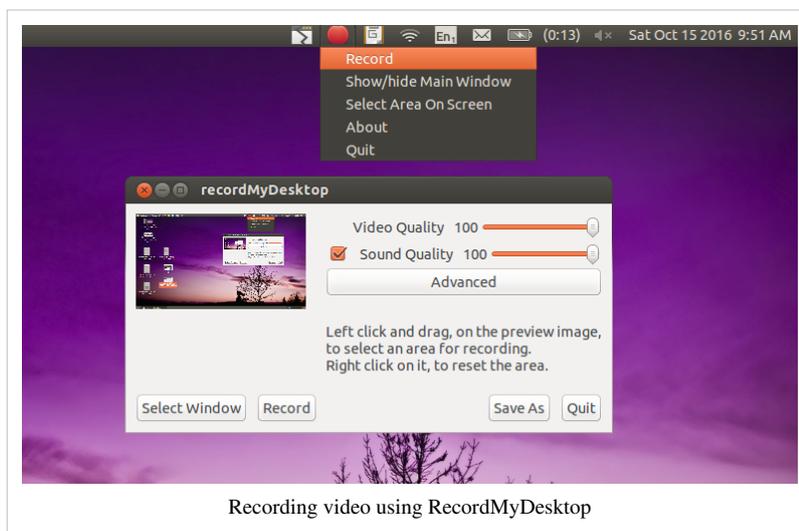
Recording part of the screen

You can also select the window of the screen which you want to record. Click on **Select window**, you will be asked to grab the area to select. You can select only that part of the screen that you want to record. This is useful if you are opening photos or playing a video on only part of your screen and want to record that part only.



RecordMyDesktop select area to record

Recording



Recording video using RecordMyDesktop

When you click on **Record** button, desktop recording will start. The recording can be paused and resumed at any time, by right clicking on the RecordMyDesktop icon in the top panel and selecting **Pause** (and later **Resume** when you want to continue recording). Clicking on 'Stop' will stop the recording and initiate the export of the video output.



We need to wait till the export is completed, to get the output file. If we close the process before, we will lose the output file. The output file will be saved in your "Home" folder by default, with .OGV format. The file will usually have a name like 'out.ogv', however you can use the 'save as' button on the RecordMyDesktop screen to give a file name.

As a teacher, one of the ways you can make resources is to use RecordMyDesktop to create a video file by combining your voice narration with a set of slides or pictures or a

video (or a combination of these) on your screen. You can simply play a slide show of your slide presentations or images in your folder, or a video, recording these through RecordMyDesktop and providing the audio with your explanation / lecture. This can be used to create lessons for reinforcing learning or for students who have missed a class, to catch up.

Dubbing a video

You can use this tool to provide voice dubbing for a video. For instance, you may find many OER videos in American English and you may want to change the language of narration to your own native language, to make the video more useful to your students.

You should to prepare the script for your narration in the language you want to dub the video in.

You need to set the sound settings on your computer to 'mute' (no output). Then start recordmydesktop application and play the video. As the video plays, read out your script. The audio read out by you will be combined with the video being shown on the screen to create the video in your language.

We have taken a video of a teacher speaking in Kannada about a program he has been a part of, and dubbed it in English.

START_WIDGETef511705e92fc28d-0END_WIDGET Video - Original in Kannada	START_WIDGETef511705e92fc28d-1END_WIDGET Video - Dubbed to ENGLISH
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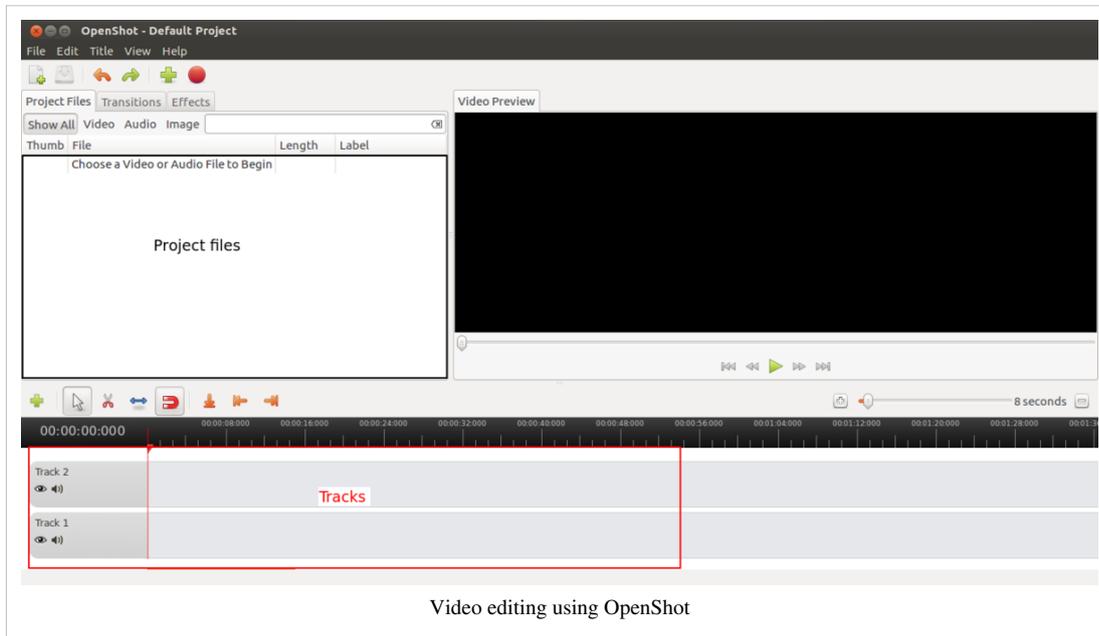
You could try this with any OER video you like, which is in accented English spoken in the USA or UK and dub it with your own voice, in English or your native language.

Editing video resources

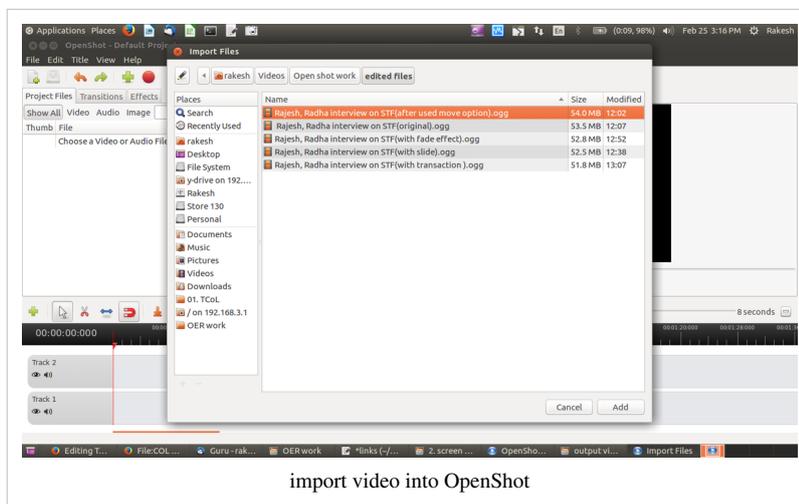
Using video editor (OpenShot) to reuse videos

You can use OpenShot video editor to edit your video clips. OpenShot is a simple yet powerful application for video editing.

Open OpenShot on your computer, through Applications → Sound and Video → OpenShot



We will need to 'import' the video we have into OpenShot. You can also import photos and audio files and combine images, audio and video files to create a video output.



Import your video into OpenShot through File → Open and select your video file.

You should also import your video clip which you want to edit. You can add tracks to the OpenShot project.

This software is very powerful with many sophisticated features (for advanced features, refer to the user manual and tutorials) (<http://www.openshotusers.com/help/1.3/en/>).

However, we will learn a few commonly used functions, in video

editing, which are useful to teachers in creating and re-purposing OER:

1. Moving a selection of video
2. Adding a slide (this can be used for sub-titling as well)
3. Adding fade in and fade
4. Adding a transition

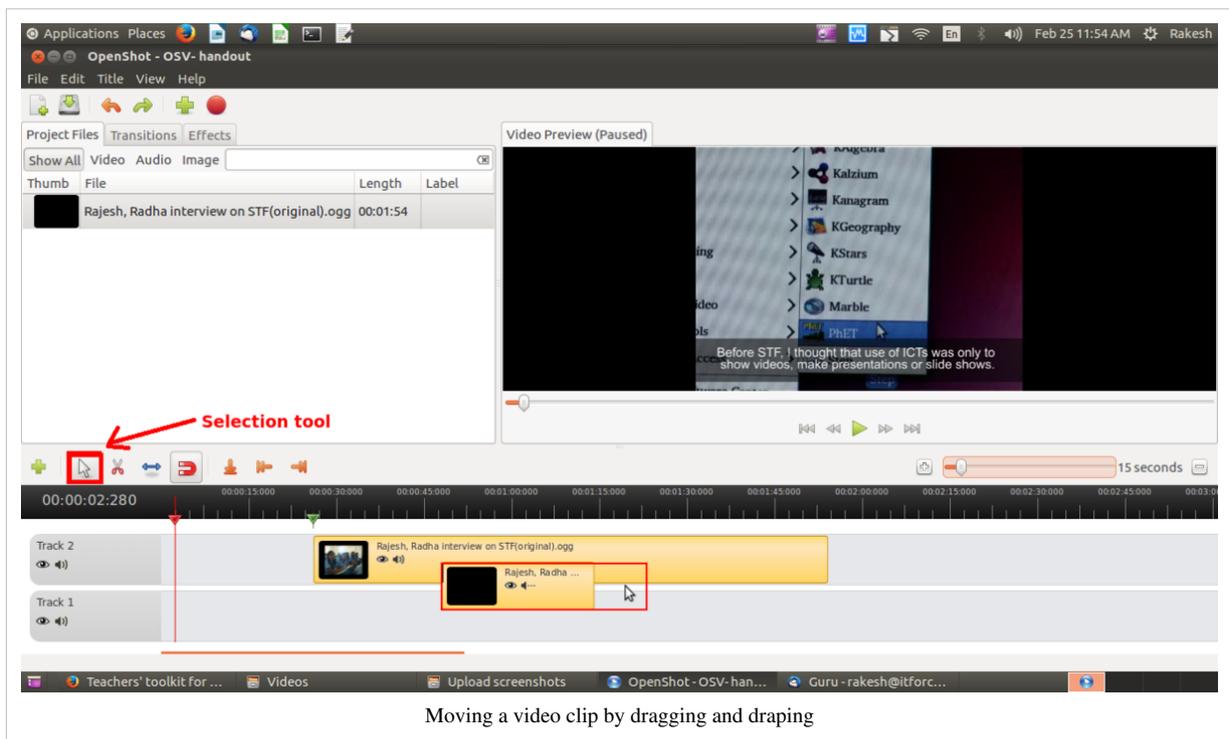
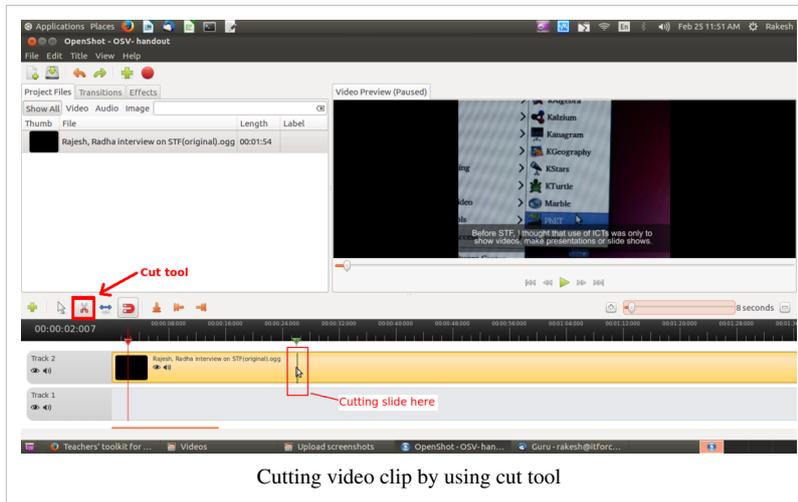
We will edit a video where two teachers (one male and second female) are speaking their work in integrating ICT in their subject teaching. (Author of video - IT for Change)

Video - See the video

START_WIDGETef511705e92fc28d-2END_WIDGET

Moving a selection of video

Just like you can cut, paste a selection of text in a text document, you can cut and paste a part of the video by using drag and drop option of the video file. You can also delete a part of the clip also using delete key from the keyboard (or right click and remove clip) and remove any part of the video clip you do not want. You can move a part of a clip from one place to another (for instance if you want to re-order responses in an interview).



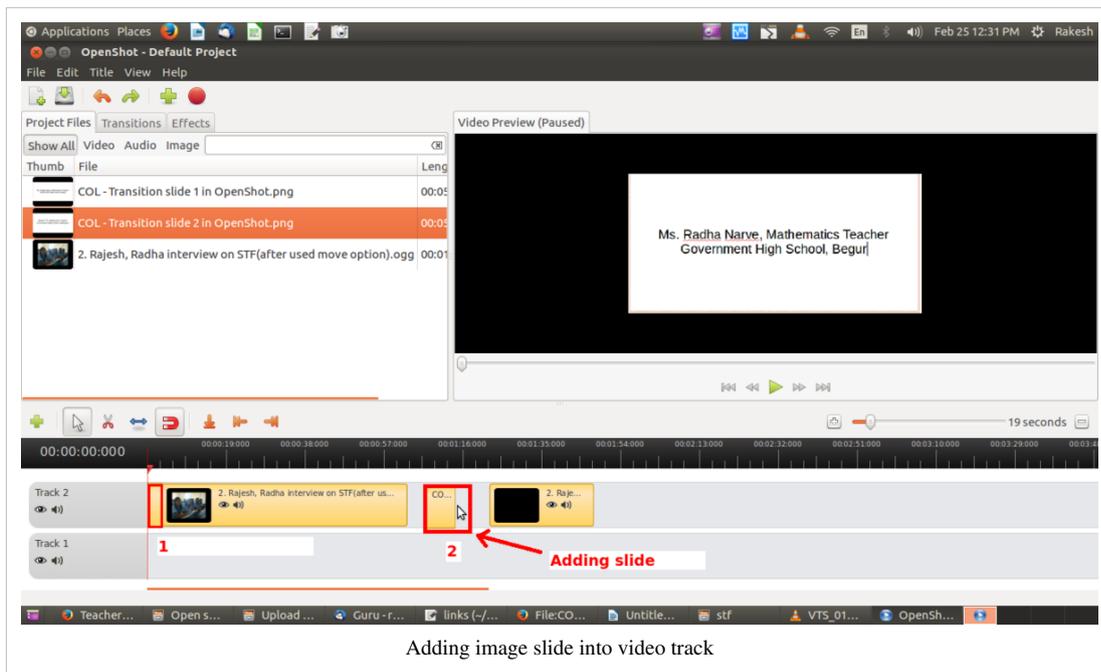
In our video, of the interview of two teachers, we have used this option to move the interview of the male teacher after the interview of the female teacher.

Video - See video where interviews are interchanged

START_WIDGETef511705e92fc28d-3END_WIDGET

Adding a slide

Here, we can add multiple image slides into video clips in different time frames.



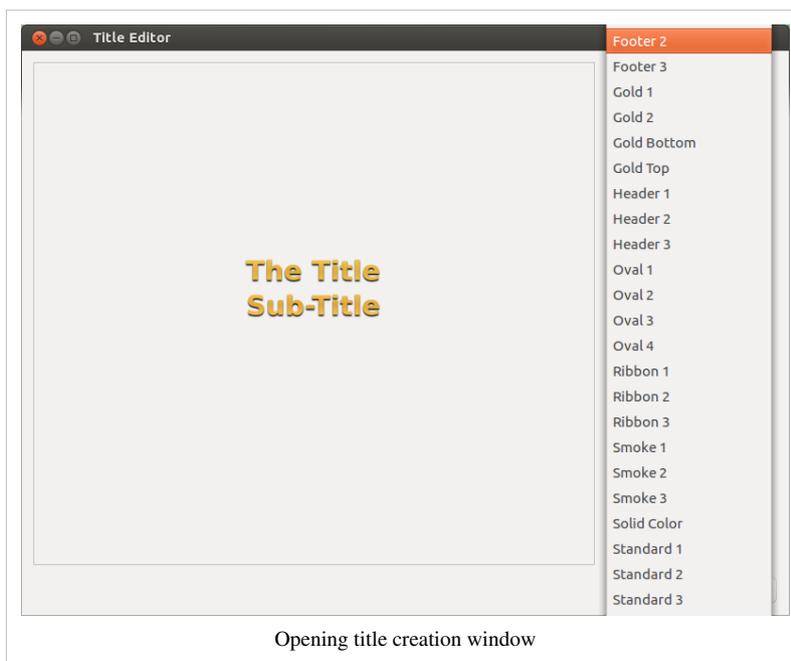
In our video, we have added a title slide introducing each teacher before they begin speaking. You can add slides as required to introduce your own narrative in the video

Video - See video where we have added two title slides

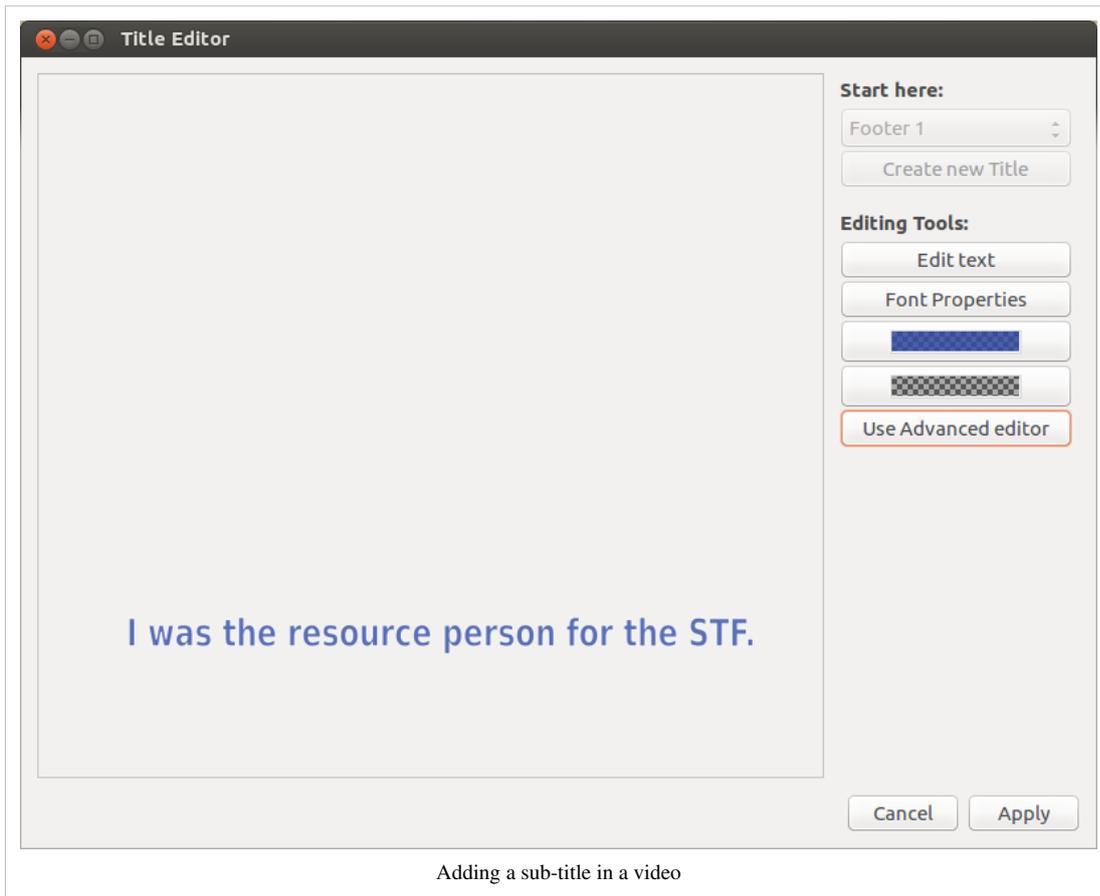
START_WIDGETef511705e92fc28d-4END_WIDGET

Sub-titling existing videos

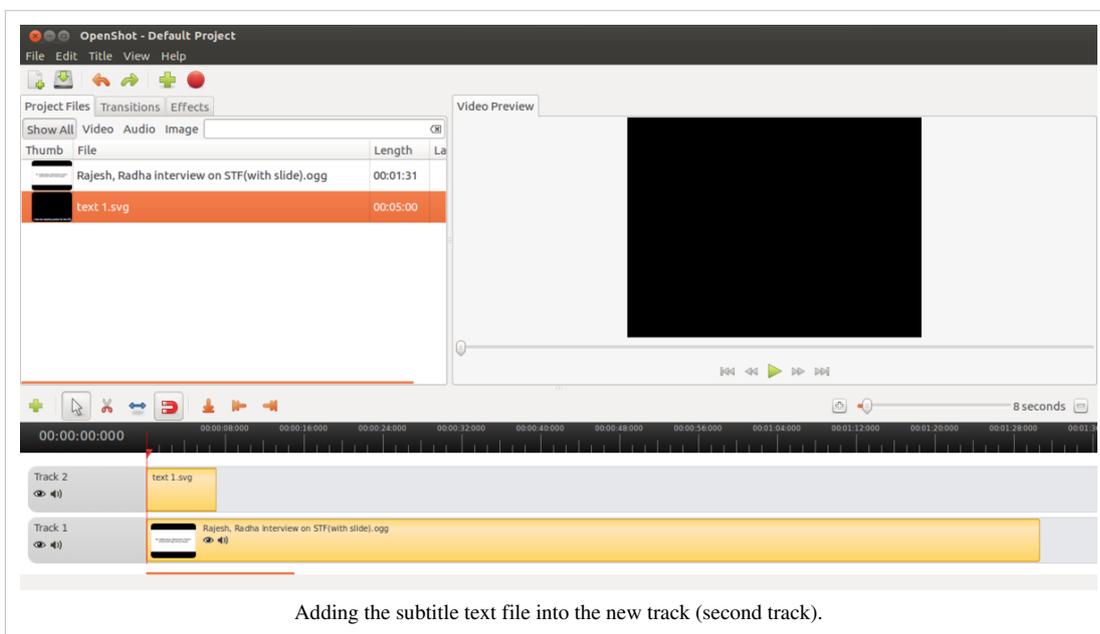
Sub-titles or provide your native language text as sub-titles to this video clip. First we have to create our new subtitle file by selecting **Title -> create new title**.



Here, in the left side select style of your sub-title (we have selected **Footer3** - this will give my sub-title in the footer area) and click on **create new Title**.



You should give a name for your sub-title file, then enter the text you want as the subtitle, and click Apply. This sub title text will be added to your project file.

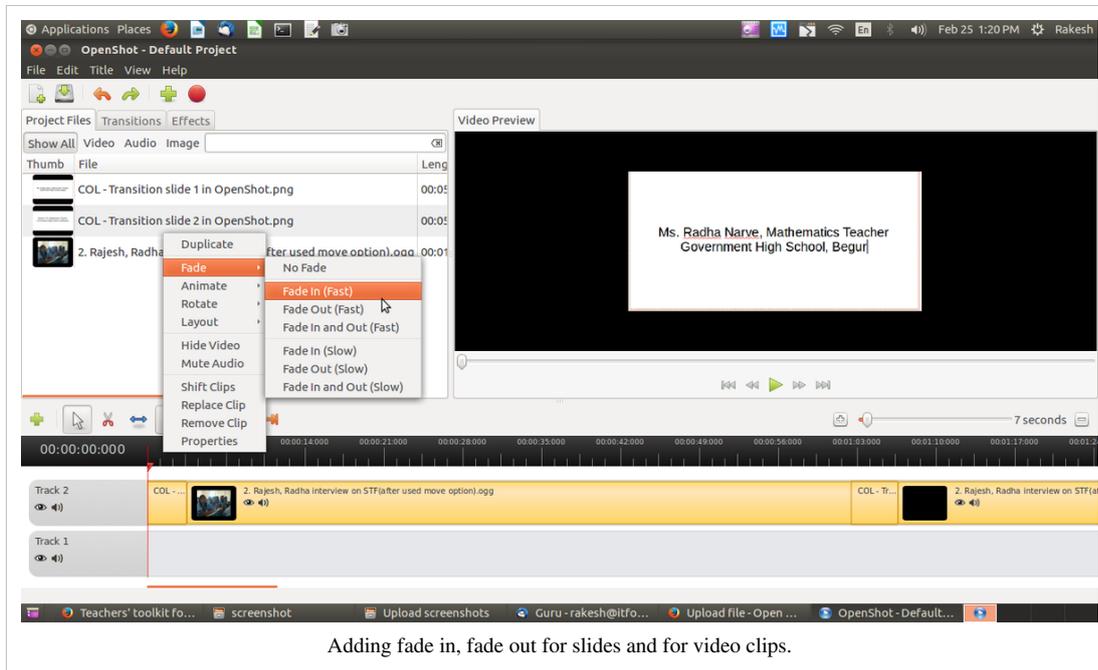


Video - See the video where we have added subtitle

START_WIDGETef511705e92fc28d-5END_WIDGET

Adding fade in and fade out

By adding fade-in and fade-out for the clips, it will smoothly changing the slides from one to next. You should right click your mouse, on the slide and select **Fade -> Fade in** or **Fade Out** as per the requirement. This fade in / fade out will effect for both audio and video.

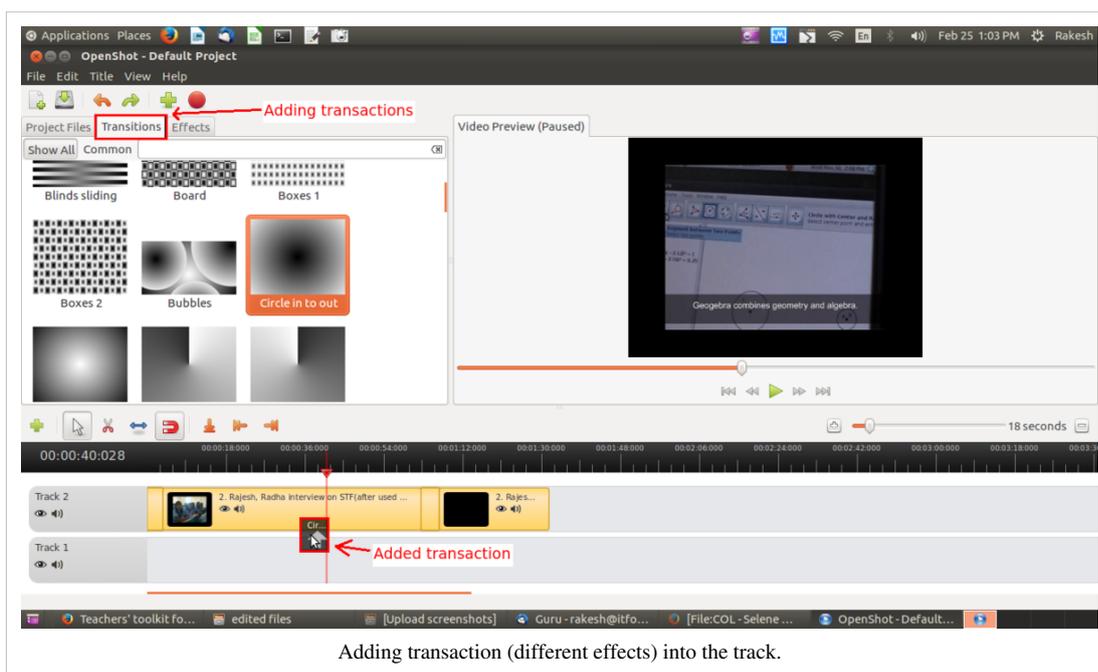


Adding fade in, fade out for slides and for video clips.

START_WIDGETef511705e92fc28d-6END_WIDGET

Adding a transition

You may want to add a 'transition' in your video, to introduce a new section. For instance you are moving between showing an interview of a person, and visuals of a program and want to have a separation between the two, introducing a transition every time you switch will make the video easier to follow. You can do this selecting **Transition**, you will see icons of different transitions. Select one transition and drag-drop it on the video, at the spot you want to introduce the transition.



Adding transaction (different effects) into the track.

Video - In this video we have added transition in 0.35 sec time frame.

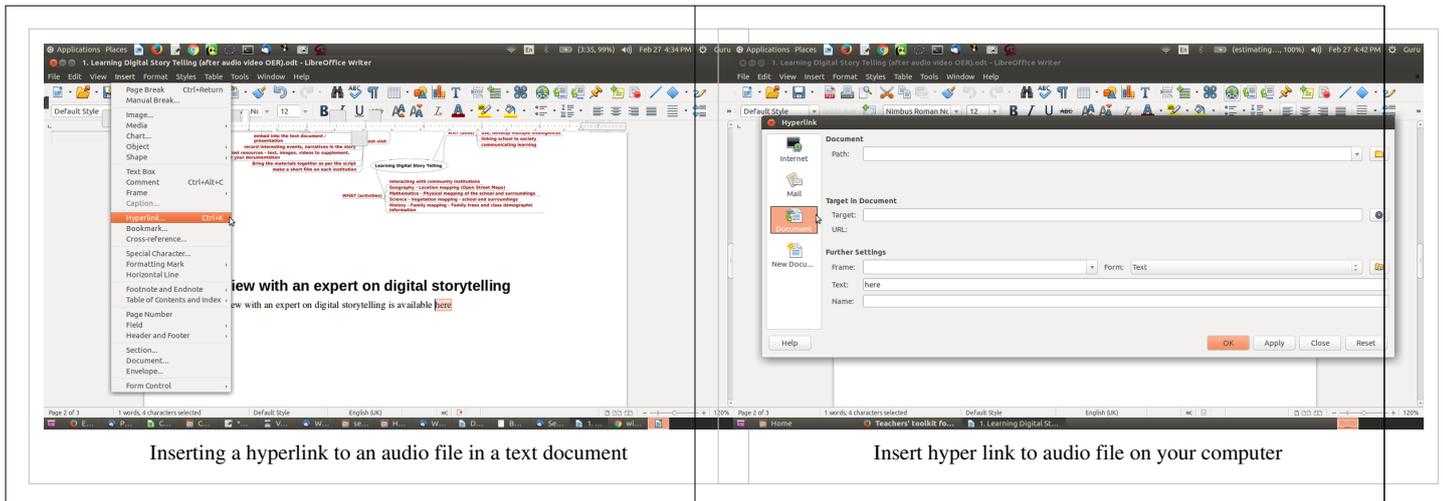
START_WIDGETef511705e92fc28d-7END_WIDGET

Combining text and audio video reources

Inserting links to audio and video resources in a text document (*LibreOffice Writer*)

You cannot insert an audio or a video into your document itself (though you could insert / embed an image in your text document). However you can provide a hyper-link to the audio file or video file in your computer, to the document. Clicking on this link will play the audio or video.

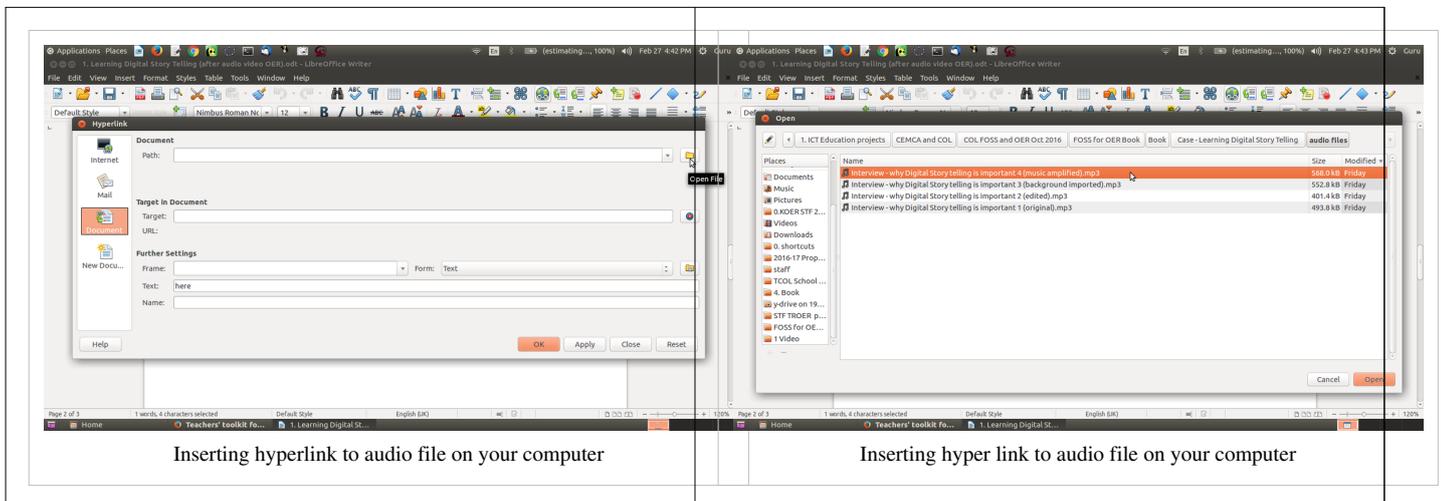
We will insert a hyper-link to the audio interview with an expert on Digital Storytelling in our 'Learning Digital Story Telling.odt'. We will open our 'Learning Digital Story Telling.odt' file. In this file we will create a section 'Interview with an expert on digital storytelling' and enter the text "An interview with an expert on digital storytelling is available here". We will select the text 'here' and then select **Insert -> Hyperlink**. We will get a form, which allows us to provide a hyperlink to another file. On the left side of the form, there are four icons for Internet, Mail, Document and New Document, which allows us to link to a web page on the world wide web, an email, a file in our computer, or to a section of the current document, respectively. We will click on the 'Document' icon on the left side and this will open a form on the right side, asking us to specify the 'path' where the file is saved.



Inserting a hyperlink to an audio file in a text document

Insert hyper link to audio file on your computer

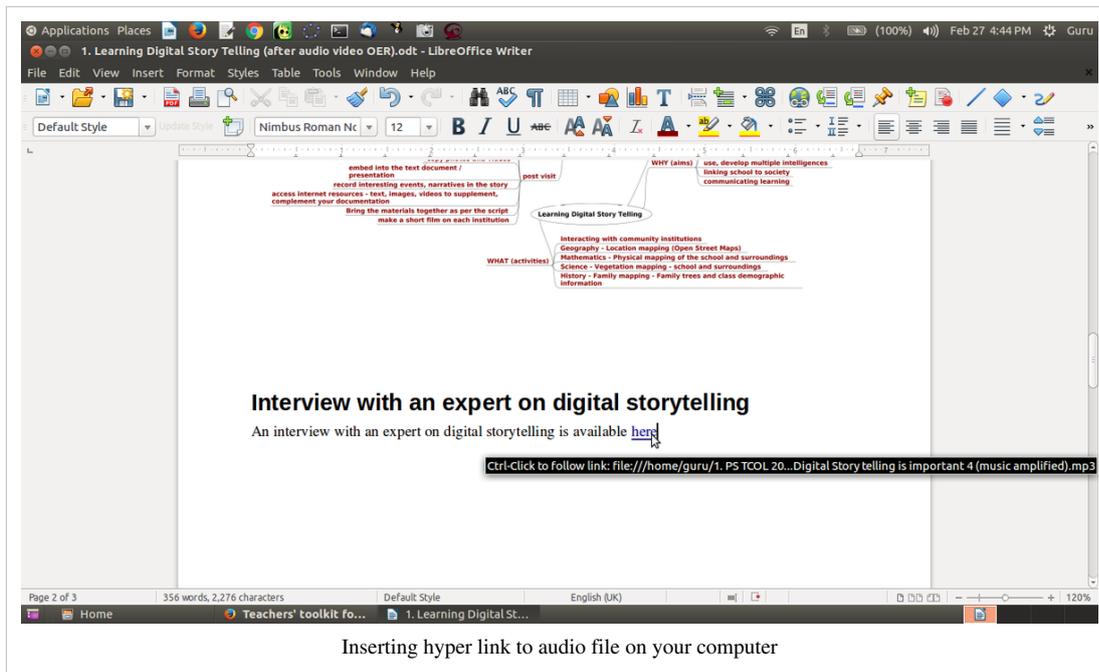
Clicking on this 'path' icon, will open the file browser. We will select the file by browsing our computer and then click on 'OK'.



Inserting hyperlink to audio file on your computer

Inserting hyper link to audio file on your computer

The text 'here' is now displayed as a hyperlink. If you 'control-click' on this link (that is press control and simultaneously press the mouse left click), the link will play the audio file on your computer.

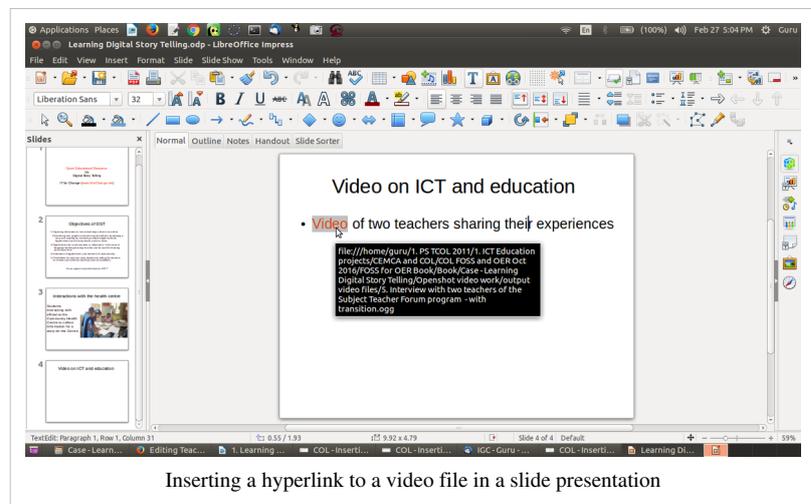


Inserting hyperlink to audio file on your computer

You will need to follow an identical process to insert a link to a video file on your computer.

Inserting links in a 'slide presentation' format (*LibreOffice Impress*)

Inserting links in your slide presentation document, to file on your computer, is identical to the process followed in LibreOffice Writer. We have inserted a hyper-link to a video file on our computer "Interview with two teachers of the Subject Teacher Forum program - with transition.ogg" in the slide, to the word 'Video' in the slide presentation. In the 'normal slide view', you will need to 'control-click' to open the video. In the 'Slide Show' view, simply clicking on the link will play the video.



Inserting a hyperlink to a video file in a slide presentation

Alternative applications and alternative platforms

Please refer to Annexure, for a list of equivalent Free and Open Source Software applications on the GNU/Linux, Microsoft Windows and Android (Mobile phone) platforms and on the web.

File formats

Different programs store the same kind of information in different formats, the format is indicated by the extension to the file name, which is usually 3 characters. For e.g. a text file may be stored in a .docx or a .odt or a .txt format, a music file may be in a .wav or a .mp3 or a .ogg format. Some formats are 'open' while others are 'closed'. An open

format (https://en.Wikipedia.org/wiki/Open_format) is a "file format for storing digital data, defined by a published specification usually maintained by a standards organization, and which can be used and implemented by anyone, whereas a non-open or closed format may not be possible to be implemented by anyone other than the vendor". Open formats should be preferred for OER, since they share the underlying rationale of being used/usable by anyone. Hence, you may want to convert your file from a closed format to an open format.

Another pragmatic reason, you may have a need to convert a file from one format to another, to use it. A video that plays on your computer may not play on your DVD player, or a music clip that plays on your computer may not play on your mobile phone.

In this chapter, you will learn how to publish your OER in open formats, and convert the OER into an open format.

Open and closed formats

Open and closed formats for the different OER you have learnt is provided in table below

No	Category	open format	closed format
1	Text OER	odt	doc
2	Text OER – Presentations	Odp	ppt
3	Image OER	png, jpeg	ecw
4	Audio OER	ogg	wav
5	Video OER	Ogg, ogv	mpeg4

Converting text files (LibreOffice)

The formats that LibreOffice saves files conform to the 'Open Document Format' for text (.odt or open document text), spreadsheet (.ods or open document spreadsheet), and presentation (.odp or open document presentation). You can convert a document which is in another format into these formats by simply opening the document in LibreOffice and then using **File → Save As** to save in these open formats. You can, for instance, open a Word document in a docx format, in LibreOffice Writer and then 'save as' odt. You can thus use LibreOffice to convert files in text formats.

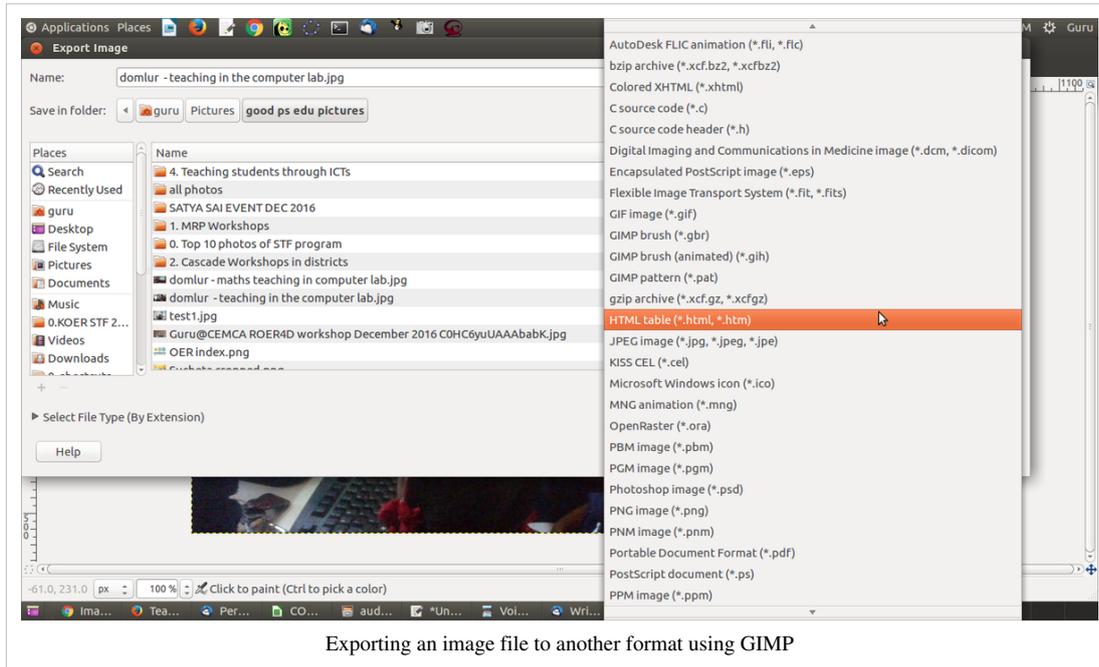
You can also save a LibreOffice file as a web page (html format). A file saved as a web page can be opened by a web browser.

You can also save a LibreOffice file as a pdf. The pdf format has two advantages, printing it will give the same hard copy as the soft copy. Secondly, it can be read on all systems, since the fonts are stored with the file. This is particularly useful in case where certain fonts, not available on all computers are used (such as non-UNICODE fonts); saving and sharing in PDF format will allow it to be read by others in their computers.

All these format changes can be done in the LibreOffice Writer (<https://libreoffice.org/discover/writer/>), Calc (<https://libreoffice.org/discover/calc>) and Impress (<https://libreoffice.org/discover/calc/>) applications, for text, spreadsheet and presentation documents.

Converting image files (GIMP)

You can import an image file into GIMP (File -> Open) and then export the same file (File -> Export) into a format of your choice. GIMP allows export into a wide variety of image formats.



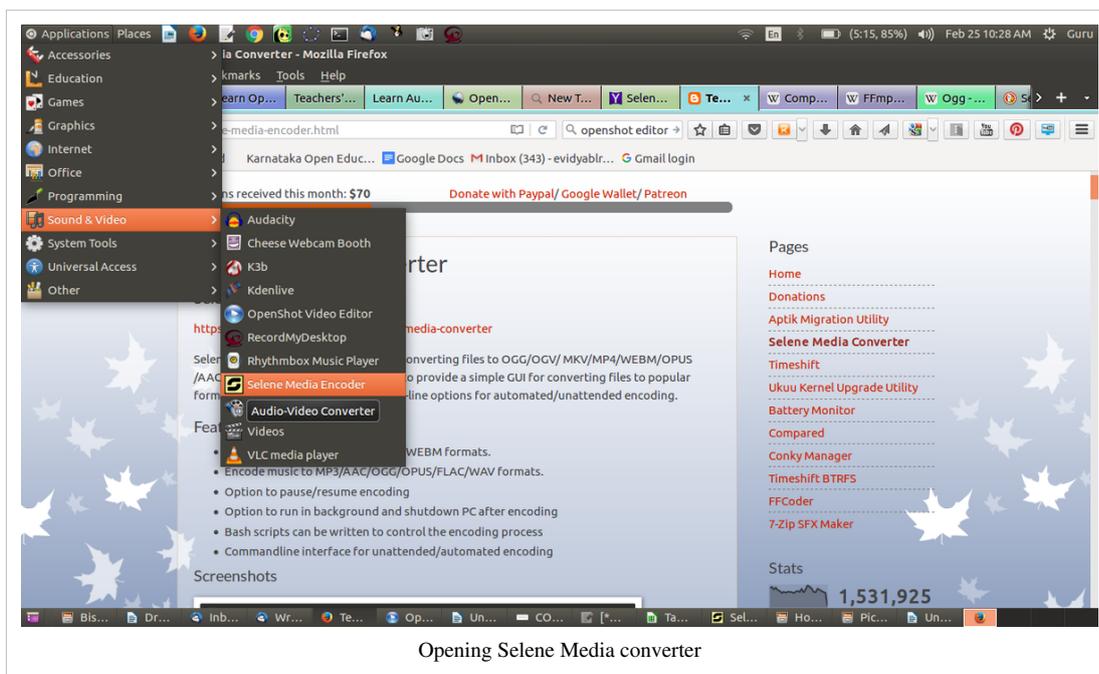
Exporting an image file to another format using GIMP

You can export your image to the popular open image formats such as png and jpeg.

Converting audio and video media files (*Selene Media converter*)

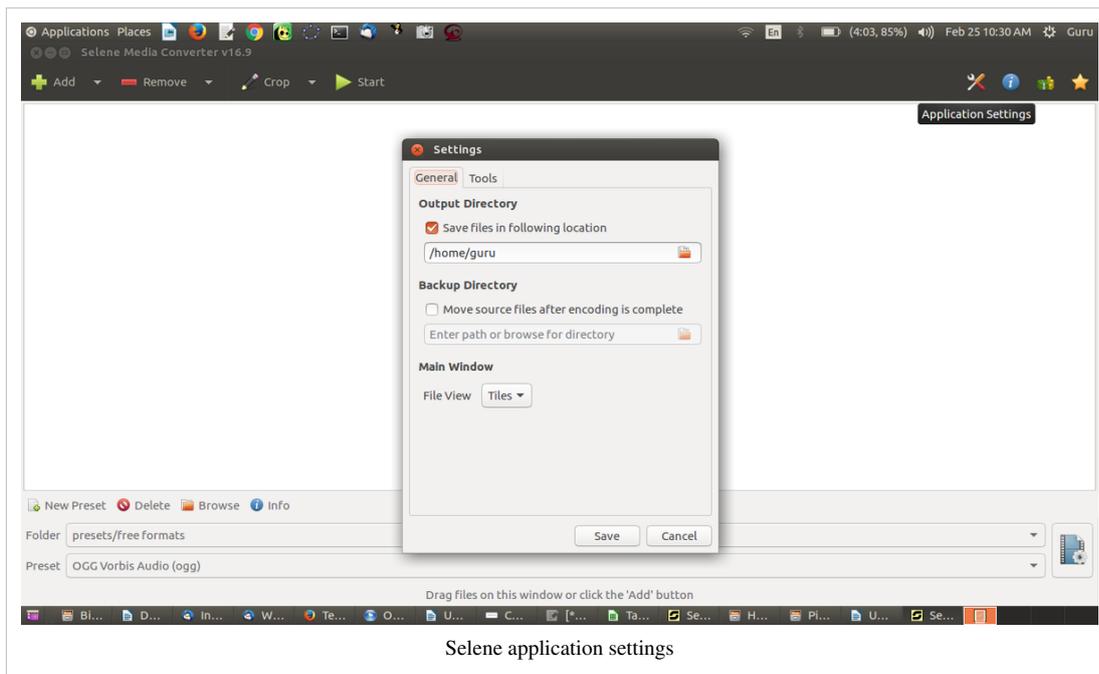
You can convert media files using the Selene Media converter

Open Selene Media converter on your computer, through Applications → Sound and Video → Selene Media converter.



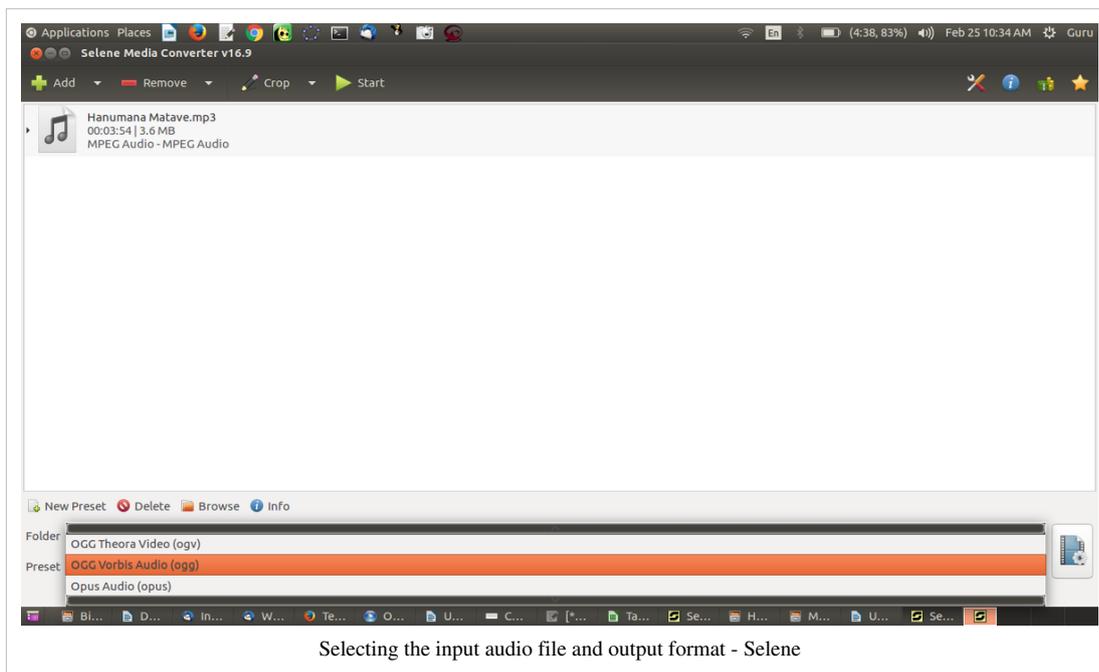
Opening Selene Media converter

You can click on the 'settings' icon to specify the folder in which the converted file should be saved.

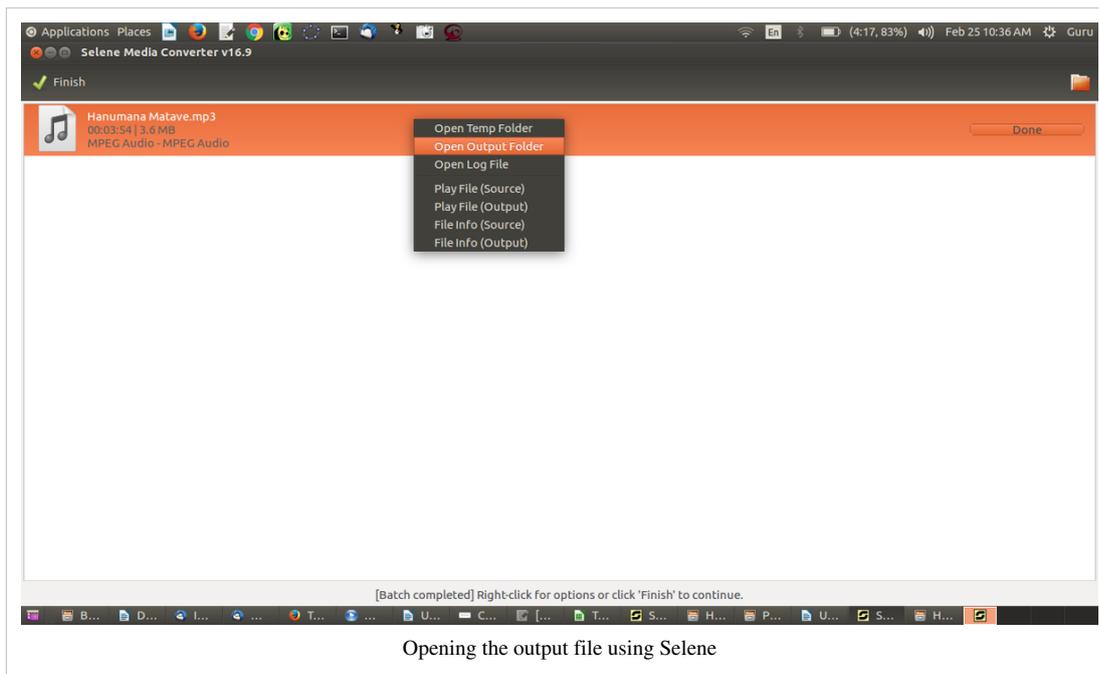


We will need to 'import' the audio or video file we have into Selene Media converter. You can specify the output format.

We will click on the 'Add' icon to open a music file in .mp3 format. We will convert it into the .ogg open format.



We will select the file and click on the 'Start' icon to begin the conversion. On right clicking the file, you will get an option to open the output folder.



You can save the new .ogg audio file in the folder of your choice. Selene can be used to convert audio and video files.

Publishing OER

Technology for creation and self-expression has become one of the defining features of the increased availability of ICT in today's society. OER further facilitates this creativity and expression. The power of OER is in its re-use by others, creating a rich learning environment. You benefit from OER, by being able to access a variety of resources for your various learning and teaching needs. Likewise, it is important for you to publish the OER you create, so that it is available to others (for further re-use or re-purposing), to sustain a virtuous cycle of receiving-giving (**access->create->publish->access**).

It is also important for you to access existing OER, revise them to make them more valuable (including by improving their accuracy or comprehensiveness or by contextualising them or by translating them), and publishing the revised OER. Such re-purposing and publishing is also a virtuous cycle (**access->re-purpose->publish->access**) that can make it easier for others to get OER that they want.

You have so far maintained your OER in your own computer in your personal digital library. This is accessible only to you. However if you publish your OER on the world wide web, it will be available to anyone, any time. Publishing content on-line is making available, a copy of your personal digital library on the the web, which is like a global digital library.

You can publish your content in one of two ways (or both):

1. Contributing your creations to existing OER repositories
2. Maintaining your own personal web space and making available all your OER at a single location

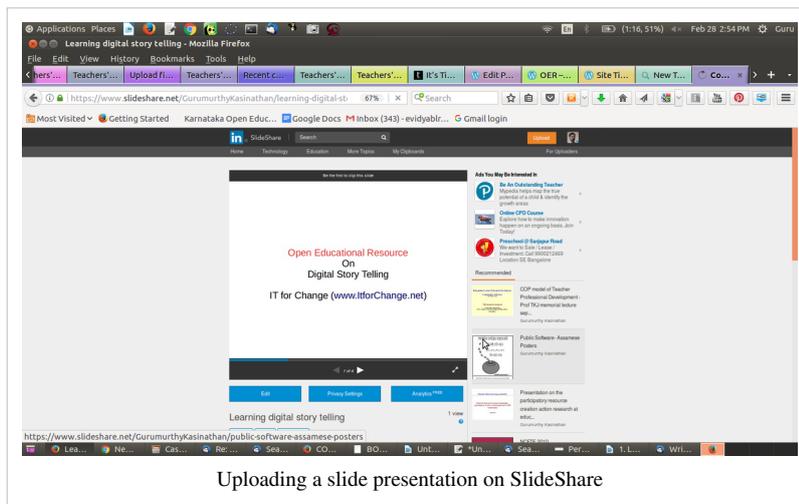
Contributing your creation to existing repositories

You can publish your OER in popular OER repositories, some of which have been mentioned earlier in this toolkit. This chapter briefly discusses OER repositories where you could publish the OER you create or re-purpose. It also provides an example for each section, by uploading the OER that we have created in this toolkit on 'Learning Digital Story Telling', on these repositories.

Publishing your text OER on an OER repository

There are OER repositories for uploading your text resources. WikiEducator (https://wikieducator.org/Main_Page) is an OER repository specially for sharing educational Academia.edu (<https://www.academia.edu/>) is a repository for sharing articles and academic papers.

SlideShare (<http://slideshare.net>) is a popular web site where you can upload your presentation slides and text documents in different formats (<https://linkedin.com/help/slideshare/answer/53682>).



We have uploaded our slide presentation on our SlideShare (<https://www.slideshare.net/GurumurthyKasinathan/learning-digital-story-telling>) account. You too can create your account on SlideShare (<http://slideshare.net>) and upload your slide presentation and your text document. You should specify 'Public' in the 'Privacy' settings, to make the document available to all.

It is important to note here that even if you are contributing your resource to a repository that is not OER, you may be able to make your resources OER, for anyone to access. Remember always to specify the license of the OER you upload. If you do not specify any license, then the default license 'all rights reserved' will apply, which will make your content a 'non-OER'. You can choose from a variety of Creative Commons licenses (<https://creativecommons.org/licenses/>).

Contributing to collaborative text OER

You can also contribute your content to Wikipedia (<https://en.wikipedia.org/>), the most visited OER in the world. You can either create a new web-page or edit an existing page on Wikipedia. This encyclopedia has grown to be the most referred-to encyclopedia, by the collaborative efforts of a world-wide community of Wikipedia editors. Contributing to Wikipedia is even more important if you are creating an OER in a language other than English. Most languages of the world, especially languages spoken in the developing countries, are not well represented on Wikipedia (see List of Wikipedias (https://en.Wikipedia.org/wiki/List_of_Wikipedias)). Since Wikipedia is a popular encyclopedia, if you could regularly contribute your OER to Wikipedia, it would be useful to many others. You will need to follow the editing guidelines of Wikipedia.

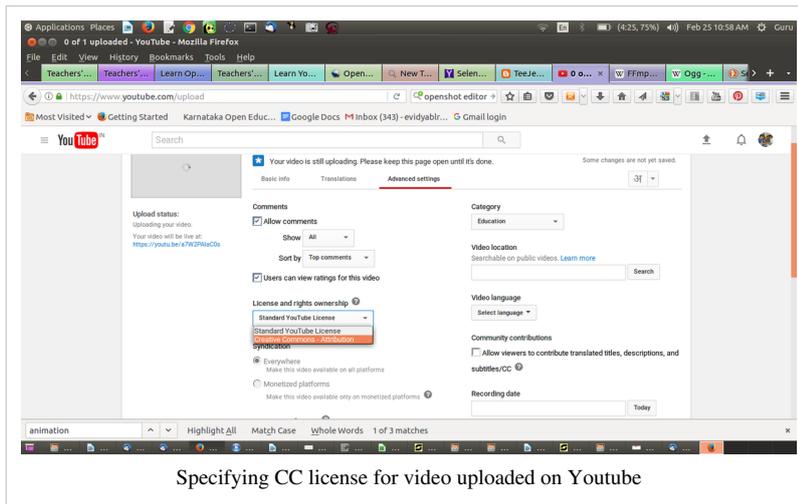
OER commons (<https://www.oercommons.org/>) is another repository where you can join and create text OER, enriched with media OER; this site also allows you to build lessons and modules.

As we saw earlier, you should publish in formats that are open and easier to edit. A web page is usually in the .html format which is an open format. In case you are uploading a document (file) on-line, you should prefer an odt over a pdf format (editable v/s non-editable format) for publishing a text document. Again you should prefer an odt over a docx format (open v/s closed formats).

Publishing your image and audio visual OER

We saw in the earlier chapters different repositories for image, audio and video files. Wikimedia commons (<https://commons.wikimedia.org/>) is one of the largest repositories of media OER of different kinds - image, audio and video files. See the image of the digital story that we have uploaded on Wikimedia commons here (https://commons.wikimedia.org/wiki/File:Digital_Storytelling_Community_Health_Centre.jpg). Other options for image repositories include pixabay (<https://pixabay.com/>) and Flickr (<https://www.flickr.com/>).

Audio OER can be uploaded on Soundcloud (<https://soundcloud.com/creativecommonsmusicfree>). We have uploaded our audio file on Soundcloud (<https://soundcloud.com/gurumurthy-kasinathan/interview-why-digital-story-telling-is-important-1-original>)



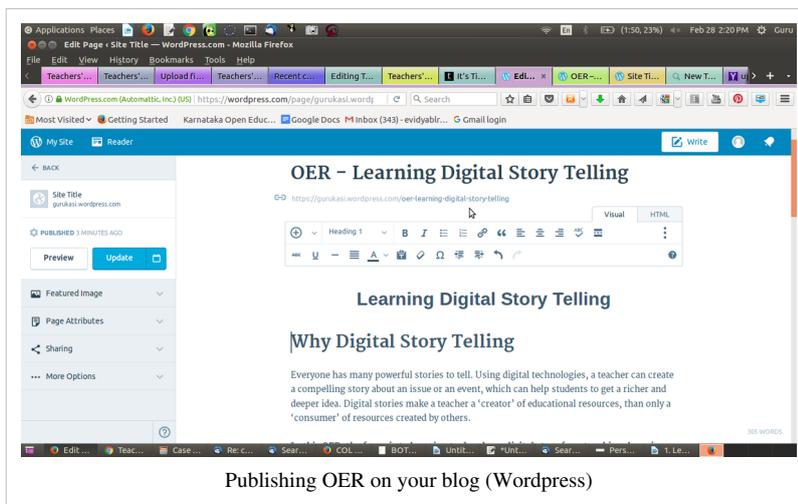
Video OER can be uploaded on Youtube (<https://www.youtube.com>). You should ensure to select the Creative Commons license when you upload your video OER, to ensure that it is available freely to others. We have uploaded our video files on Youtube, see one of these Youtube videos here (<https://www.youtube.com/watch?v=LqM1sSgocZk>).

Vimeo is another popular site for uploading OER videos.

OER commons (<https://oercommons.org>) is another repository for sharing your image, audio and video OER.

Creating your own web space and publishing OER

You can create your own (blog) site on Wordpress (<http://Wordpress.com>). If you would like to upload all your OER in a single place to make it available to others, this is a good option. Wordpress (<http://Wordpress.com>) is a simple software for you to manage your web content. You could also maintain your own blogs with an organized collection of all OER created by you.



We have uploaded the text document content and the concept map image on our Wordpress site (<https://gurukasi.wordpress.com/oer-learning-digital-story-telling/>).

You can upload your text and image OER on your Wordpress blog. You need a premium account in Wordpress to upload audio and video. However, you can upload your audio and video files on the audio and video repositories discussed earlier and provide a hyper-link to those pages on Wordpress, to create your complete

OER.

MediaWiki is also a platform on which OER can be published, it is a versatile platform, that has been developed for collaborative OER creation. It allows multiple users to edit the same content, it allows embedding of image, animation, audio and video resources. MediaWiki is most suitable for cases where a group or a community of teachers (could be teachers belonging to one institution or one school system) want to come together to co-create OER.

OER created as part of the toolkit

As a part of the toolkit, we worked on creating an OER for the topic 'Learning Digital Story Telling', to demonstrate to you how we could use FOSS applications to create and re-purpose OER. The OER is available on the different pages for text, image and animation, audio and video OER, it is shown below for reference at a single location:

1. Freeplane - Concept Map (https://teacher-network.in/OER/images/7/7d/Digital_Story_Telling_personal_digital_library_-_Image.mm)
2. LibreOffice Writer - Text document ([https://teacher-network.in/OER/images/5/55/Learning_Digital_Story_Telling_\(after_audio_video_OER\).odt](https://teacher-network.in/OER/images/5/55/Learning_Digital_Story_Telling_(after_audio_video_OER).odt))
3. LibreOffice Impress - slide presentation (https://teacher-network.in/OER/images/2/24/Learning_Digital_Story_Telling_-_Slide_presentation.odp)
4. Images
 1. Image created using Tux Paint (https://teacher-network.in/OER/images/5/55/Animation_created_using_Tux_Paint.ogv)
 2. Image created using Screenshot (https://teacher-network.in/OER/images/thumb/9/91/COL_-_Creating_an_image_using_Screenshot_-_select_area.png/450px-COL_-_Creating_an_image_using_Screenshot_-_select_area.png)
 3. Image edited using GIMP
 1. Cropping selected image part (https://teacher-network.in/OER/images/thumb/5/5a/COL_-_Crop_to_selection_of_an_image,_using_GIMP.png/450px-COL_-_Crop_to_selection_of_an_image,_using_GIMP.png)
 2. Added text into Image (https://teacher-network.in/OER/images/thumb/b/bb/Entering_text_on_an_image_using_GIMP.png/450px-Entering_text_on_an_image_using_GIMP.png)
5. Audio recordings using Audacity
 1. Audio recording of interview - original ([https://teacher-network.in/OER/images/1/1d/Interview_-_why_Digital_Story_telling_is_important_1_\(original\).ogg](https://teacher-network.in/OER/images/1/1d/Interview_-_why_Digital_Story_telling_is_important_1_(original).ogg))
 2. Audio recording (edited) - Moving part of the audio ([https://teacher-network.in/OER/images/e/eb/Interview_-_why_Digital_Story_telling_is_important_2_\(edited\).ogg](https://teacher-network.in/OER/images/e/eb/Interview_-_why_Digital_Story_telling_is_important_2_(edited).ogg))
 3. Audio recording (edited) - background music added (https://teacher-network.in/OER/images/5/56/Audio_file_with_background_music_added.ogg)
 4. Audio recording (edited) - background music Amplification ([https://teacher-network.in/OER/images/d/dd/Audio_file_with_background_music_amplified_\(reduced\).ogg](https://teacher-network.in/OER/images/d/dd/Audio_file_with_background_music_amplified_(reduced).ogg))
6. Video recordings using RecordMyDesktop
 1. Video recording - original Video in Kannada (<https://www.youtube.com/watch?v=F1wX85-ub3o&feature=youtu.be>)
 2. Video recording - Video dubbed into English (<https://www.youtube.com/watch?v=0tKJX6EU0tM&feature=youtu.be>)
7. Video Editing using OpenShot
 1. Video recording of teachers explaining ICT integration - Original video (<https://www.youtube.com/watch?v=LqM1sSgocZk>)
 2. Video recording (edited) - Moving part of the video (<https://www.youtube.com/watch?v=lHyETfKJN-o>)

3. Video recording (edited) - Adding slides (https://www.youtube.com/watch?v=UPbOmQ_eX-k)
4. Video recording (edited) - Adding sub-titles (<https://www.youtube.com/watch?v=A7pt9NPEEcc>)
5. Video recording (edited) - Fade in and fade out (<https://www.youtube.com/watch?v=VFQNcbLe-a8>)
6. Video recording (edited) - Adding transition (<https://www.youtube.com/watch?v=b0XQCJh-dhc>)

We have copied the text from the LibreOffice text document onto the WordPress page (<https://wordpress.com/page/gurukasi.wordpress.com/27>) and inserted the concept map. The web address of one audio and one video has been linked on this page. The aim is to demonstrate how you can bring together text, image, audio and video resources relating to one topic on one page on your WordPress blog. This will allow all your OER on a topic to be strung together providing greater coherence and quality. You can create any number of such pages on different topics that you are creating and re-purposing OER on.

Our purpose in our exercise has been only to demonstrate to you, how to go about creating, re-purposing and publishing OER. The OER created is not intended to be in its final form, for that much more work is required add content to complete the text document and the slide presentation. Work is also required to bring together and refine the text, image, audio and video resources together to make a final OER set on 'learning digital story telling'. Preparing a quality OER is time and effort intensive exercise, you will also need to work quite a bit to revise, refine and finalise your OER. This is likely to be a iterative effort. The applications we have learnt will enable you to go back to the specific OER (file) you are working on, and continue editing the same for further revising.

OER to build communities of practice

One of the great challenges that teachers face is isolation in their practice. Communities of practice has been seen as a method of supporting teacher professional development and reducing isolation. When teachers are supported to interact in a free and open technology environment, they are able to support one another in the creation of open educational resources using multiple tools and processes. Such an environment, supported by online and virtual methods, can build collaboration amongst teachers, thus supporting the community as well. OER creation and re-use could well be the context and outcome of teacher communities. Creation of a free and open technology environment is what could make this a reality. In this equation, we can see OER as the 'What', COP as the 'Who' and FOSS as the 'How' of this paradigm.

Communities of Practice and OER - a symbiotic relationship

As mentioned earlier, MediaWiki (<http://mediawiki.org>) is a platform that can be used by Communities of Practice of teachers to collaborate in creating, re-purposing and publishing OER. While Wikipedia is an example of collaboratively created OER, that seeks to meet the information needs of all, the Karnataka Open Educational Resources (KOER) portal aims to meet the needs of teachers of Karnataka. Created by a the Communities of Practice of Government high school teachers, the KOER MediaWiki (<http://mediawiki.org>) portal has their contribution in the subject areas of Mathematics, Science, Social Science and Languages. This model of OER creation and re-purposing by a community of teachers can be adopted by other institutions or education systems.

Creating a graphic view of your PDL

The files created by us as part of the OER creation and re-purposing are stored in folders in our computer. Normally we access these files in a hierarchical manner, by drilling down the folders, sub-folders and sub sub-folders till we reach our files. Freeplane has a feature by which we can import the entire folder/file structure into a concept map. This concept map will show the hierarchy of folders and files through the child nodes and sibling nodes. Each node will display a pink arrow to the left of the name of the folder or file. Clicking on this arrow will open the folder (or the file, using the relevant application). This way you can easily navigate your PDL using a single concept map. You can refresh this concept map once in a while and import the entire folder structure on your computer, including all your folders and files! This will give you an easy overview of the folders and files on your computer.

List of publishing spaces by format of OER

No	Category	Site for publishing OER on-line
1	Text OER	Wikipedia (https://en.wikipedia.org/), WikiEducator (https://wikieducator.org/Main_Page)
2	Text OER – Presentations	Slideshare (http://Slideshare.net) and Academia.edu (https://www.academia.edu/)
3	Image OER	Wikimedia commons (https://commons.wikimedia.org/), Flickr (https://www.flickr.com/), pixabay (https://pixabay.com/)
4	Audio OER	Soundcloud (https://soundcloud.com/creativecommonsmusicfree)
5	Video OER	Youtube (https://www.youtube.com/), Vimeo

Note

1. Before uploading your OER, you will need to register or create a login id on the site
2. You need to ensure that you have not used any non-open (copyright) materials in making your OER.

Popular OER repositories

1. Some of the large-scale repositories created through the OER movement include:
2. OpenCourseWare (<https://ocw.mit.edu>),
3. OER Commons (<https://oercommons.org/>),
4. Merlot (<https://merlot.org/>)
5. Khan Academy (<https://khanacademy.org/>)
6. OpenLearn (<http://open.edu/openlearn/>)

You should refer to these, while creating or re-purposing your OER.

Pages or articles listing OER repositories

You can get a list of OER repositories from the following web pages:

1. Wikipedia (https://en.Wikipedia.org/wiki/List_of_educational_video_websites)
2. WikiEducator (http://wikieducator.org/Exemplary_Collection_of_Open_eLearning_Content_Repositories)
3. COL Workshop on OER (<http://col-oer.weebly.com/module-4---the-oer-landscape---how-to-find-oer.html>)
4. DiscoverEd (<https://wiki.creativecommons.org/wiki/DiscoverEd>) from the Creative Commons
5. Edutopia (<https://www.edutopia.org/open-educational-resources-guide>)
6. Nova Library (<http://libguides.nvcc.edu/c.php?g=361340&p=2439998>)

Annexure

Training plan for a 3 day program / workshop on the Toolkit

Day	Session	Topic	Session Plan detailing
1	1	Objectives of workshop	Objectives, agenda, methodology, outcomes
1	2	Basics of ICT	Technology for creating and connecting Principles of FOSS and OER - copyright, licensing Introduction to a Free and Open Environment - Ubuntu and applications Accessing the internet - global digital library A tour of OER repositories available
1	3	Creating a Text OER	Accessing Text OER, Creating a Personal Digital Library document and folders Creating with Freeplane.
1	4	Creating a Text OER	Adding to the Personal Digital Library document and folders Creating with LOW, LOI.
2	1	Creating a Image OER	Accessing Image OER, Creating with Screen shot, Tux Paint Enriching the Personal Digital Library document and folders
2	2	Combining text and images to create OER	Editing images, creating images using GIMP Adding text Combining images, photographs with text documents to create OER
2	3	Creating a Audio OER	Accessing Audio OER. Adding to the Personal Digital Library document and folders Editing audio files with Audacity
2	4	Creating a Video OER	Accessing Video OER, Creating with RecordMyDesktop. Enriching the Personal Digital Library document and folders
3	1	Creating a Video OER	Creating video resources with OpenShot. Finalising the text OER with multiple media embedded and linked Finalising the Personal Digital Library document and folders
3	2	Role of community in OER creation	Participant presentation of their PDL Sharing of OER, feedback, review and revision of OER in true OER spirit How teacher communities can support and benefit from OER creation
3	3	Publishing the OER on-line	Creating ids on the OER repositories and uploading text, image, audio and video OER. Working on 1 Wikipedia page in English and in native language
3	4	Closure	Review of workshop, sharing experiences, learnings and insights. Formal feedback

Note:

1. Each day divided into 4 sessions, two pre-lunch and two post-lunch
2. Each session can be around 1.5 to 2 hours
3. Content for each session from the relevant chapters of the toolkit
4. Methodology, a mix of demonstration/presentation, hands-on and review for each session
5. Assessment consists of session-wise participant feedback, collected at the end of the workshop, portfolio created by the participants (PDL)

FOSS applications used in the tool-kit

No	Category	Name	File format	More information (Wikipedia)	Application Home Page
1	Text OER	Freeplane	.mm	https://en.wikipedia.org/wiki/Freeplane	https://www.freeplane.org/wiki/index.php/Main_Page
2	Text OER	LibreOffice Writer	.odt	https://en.wikipedia.org/wiki/LibreOffice_Writer	https://libreoffice.org/Main_Page
3	Text OER	LibreOffice Impress	.odp	https://en.wikipedia.org/wiki/LibreOffice	https://libreoffice.org/Main_Page
4	Image OER	Screenshot	.png	https://en.wikipedia.org/wiki/Screenshot	-
5	Image OER	Tux Paint	.png	https://en.wikipedia.org/wiki/Tux_Paint	http://tuxpaint.org
6	Image OER	GIMP	.png	https://en.wikipedia.org/wiki/GIMP	https://www.gimp.org
7	Animation OER	Tux Paint	.png	https://en.wikipedia.org/wiki/Tux_Paint	http://tuxpaint.org
0	Audio OER	Audacity	.wav/.mp3	https://en.wikipedia.org/wiki/Audacity_(audio_editor)	http://www.audacityteam.org/
9	Video OER	recordmydesktop	.ogv	https://en.wikipedia.org/wiki/RecordMyDesktop	http://recordmydesktop.sourceforge.net/about.php
10	Video OER	OpenShot	.osp/.mp4	https://en.wikipedia.org/wiki/OpenShot	http://www.openshot.org/

Tutorials and User manuals for FOSS applications used in the tool-kit

No	Category	Name	Tutorials	User Manual
1	Text OER	Freeplane	https://www.youtube.com/watch?v=AKt9Bm9krBM**	
2	Text OER	LibreOffice Writer	https://www.youtube.com/playlist?list=PL94682FC0D2ADF410** , http://spoken-tutorial.org/tutorial-search/?search_foss=LibreOffice+Suite+Writer&search_language=English	https://help.libreoffice.org/Writer/Welcome_to_the_Writer_Help
3	Text OER	LibreOffice Impress	https://www.youtube.com/watch?v=vR7yVoPn2bs** , http://spoken-tutorial.org/tutorial-search/?search_foss=LibreOffice+Suite+Impress&search_language=English	https://help.libreoffice.org/Impress/Instructions_for_Using_Impress
4	Image OER	Screenshot	https://www.youtube.com/watch?v=ki4SBekwmM0**	
5	Image OER	Tux Paint	https://www.youtube.com/watch?v=O6hKk-0dzKA** , https://www.youtube.com/watch?v=LJcQzGrS9So	http://www.wikihow.com/Use-Tux-Paint-with-Your-Kids
6	Image OER	GIMP	https://www.youtube.com/watch?v=ZZr8mBLiY8Y** , https://www.youtube.com/watch?v=8LmW5ndnEqw&index=1&list=PLC5B3750CE8219376** , http://spoken-tutorial.org/tutorial-search/?search_foss=GIMP&search_language=English**	https://www.gimp.org/docs/
7	Animation OER	Tux Paint	https://www.youtube.com/watch?v=O6hKk-0dzKA** , https://www.youtube.com/watch?v=LJcQzGrS9So**	http://www.wikihow.com/Use-Tux-Paint-with-Your-Kids
0	Audio OER	Audacity	https://www.youtube.com/watch?v=8E5uRjIXgfk**	http://manual.audacityteam.org/man/tutorials.html
9	Video OER	recordmydesktop	https://www.youtube.com/watch?v=u-nAcMK6m_I**	http://recordmydesktop.sourceforge.net/rug/toc.php
10	Video OER	OpenShot	https://www.youtube.com/watch?v=EDbQr0hNVZs**	http://www.openshotusers.com/help/1.3/en/index.html

**These videos are free to view but not for re-use and modify.

FOSS alternatives on other platforms

No	Category	Name	Alternatives on GNU/Linux	On Windows operating system	On Mobile phone	On the Web
1	Text OER	Freeplane	Freemind (http://freemind.sourceforge.net/wiki/index.php/Main_Page)	Freeplane (https://sourceforge.net/projects/freeplane/)	DroidPlane (https://play.google.com/store/apps/details?id=ch.benediktkoepfel.code.droidplane&hl=en)	PlantUML (http://plantuml.com/), Docear (http://www.docear.org/), XMind (http://www.xmind.net/), MindManager * (https://www.mindjet.com/mindmanager/)
2	Text OER	LibreOffice Writer	Apache OpenOffice Writer (http://www.openoffice.org/product/writer.html)	LibreOffice Writer (https://www.libreoffice.org/download/download/?type=win-x86_64&version=5.2.5&lang=en-US)	Open Document Viewer (https://play.google.com/store/apps/details?id=at.tomtasche.reader&hl=en)	Fidus Writer (https://www.fiduswriter.org/), WebODF (http://webodf.org/), Google Drive-Docs (https://docs.google.com/document/u/0/)*
3	Text OER	LibreOffice Impress	Sozi (http://sozi.baierouge.fr/)	LibreOffice Impress (https://www.libreoffice.org/get-help/install-howto/windows/)	Open Document Viewer (https://play.google.com/store/apps/details?id=at.tomtasche.reader&hl=en)	ViewSpot (http://www.viewspot.co/), Google Drive - Slides (https://www.google.com/slides/about/)*
4	Image OER	Screenshot	Shutter (http://shutter-project.org/), Lightscreen (https://lightscreen.com.ar/)	PicPick (http://ngwin.com/picpick)	Screen Capture (https://play.google.com/store/apps/details?id=com.enlightenment.screenshot&hl=en)*	Evernote Web Clipper (https://evernote.com/webclipper/), Snaggy (https://snaggy.com/)
5	Image OER	Tux Paint	Kolor Paint (https://www.kde.org/applications/graphics/kolourpaint/), My Paint (http://mypaint.org/), GIMP (https://www.gimp.org/)	MS Paint (http://www.computerhope.com/issues/ch001332.htm)	Paint (https://play.google.com/store/apps/details?id=com.electricsheep.paintpro&hl=en)*	Scri.ch (https://about.scri.ch/), Pixi Paint (https://www.danielx.net/pixel-editor/)
6	Image OER	GIMP	LibreOffice Draw (https://help.libreoffice.org/Draw/Welcome_to_the_Draw_Help)	GIMP (https://www.gimp.org/), LibreOffice Draw (https://www.libreoffice.org/get-help/install-howto/windows/)	Photo Editor (https://play.google.com/store/apps/details?id=com.zentertain.photoeditor&hl=en)*	MiniPaint (http://viliusle.github.io/miniPaint/), Scri.ch (https://about.scri.ch/)
7	Animation OER	Tux Paint	Tupi (http://www.maefloresta.com/tupi/about)	Ktoon (https://www.osalt.com/ktoon)	FlipClip Cartoon (http://flipaclip.tumblr.com/)*	

0	Audio OER	Audacity	Ocean Audio (https://www.ocenaudio.com/en/whatis),	Audacity (http://www.audacityteam.org/download/windows/)	Audio Editor (https://play.google.com/store/apps/details?id=roman10.audio.converter&hl=en)*, Ringtone Cutter (http://ringtonecutter.com/)*	FileLab Audio Editor, (https://www.filelab.com/audio-editor)*
9	Video OER	recordmydesktop	Kazam (https://launchpad.net/kazam)	Cam Studio (http://camstudio.org/)	AZ Screen Recorder (https://onhax.me/az-screen-recorder)*	Apowersoft Screen Recorder (https://www.apowersoft.com/free-online-screen-recorder)*
10	Video OER	OpenShot	Kdenlive (https://kdenlive.org/)	OpenShot editor (http://github.com/OpenShot/openshot-qt/releases/download/v2.2.0/OpenShot-v2.2.0-x86_64.exe), Windows Movie Maker (http://www.windows-movie-maker.org/)	Video Editor (https://play.google.com/store/apps/details?id=com.wevideo.mobile.android&hl=en) *	

*These applications are freeware (<https://en.wikipedia.org/wiki/Freeware>) but not free software.

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