# Your Digital Project module 2: Creating digital objects

## Introduction

You do not need to go through all of the information in this script. Some of the info is background/FYI only in case of questions during the session. Use your judgment on the time you will need to cover the main objectives.

* write your name on the whiteboard
* contact information optional

Note: a sample digital project will be used throughout the course to illustrate various points. Emphasize that this is an example of a fairly major project. See: Outline sample project: Mr. and Mrs. Wong’s 60th Wedding Anniversary.

Learning Assets:

* LibGuide
* Handouts
* PowerPoint Presentation
* Kit
  + Box of photos
  + USB Stick
  + SD Card
  + DVD
  + Post-it notes
  + VHS video
  + Photo book
* Welcome the learners & introduce yourself
* Washrooms location, cell phones, food & drink policy

***Activity***

Have participants introduce themselves and ask them to tell the group if they have a project in mind.

**Slide #1: Module #2**

## Learning OutcomeS

**Slides #2-4: Learning outcomes**

This is the second of a series of 4 courses that cover the options available in VPL’s Inspiration Lab, and how they can support an individual’s digital project.

By the end of this class you will have an understanding of:

1. The concept of a digital object and how it relates to a digital project
2. Managing your digital objects
3. Capturing images and sound
   * Taking photographs/recording audio/recording video
   * Digitization
   * Creation/authoring
4. Permissions and copyright issues for creators
5. Where and how to get help and instructional support for specific equipment, software and tasks.

## Review

There is going to be some information repeated, and expanded on in this section

To review:

What did we learn last week?

Did anything you learned last week have any effect on your project ideas?

* + - Did it give you a project idea?
    - Did it change your project idea?

## Objective #1: what is a digital Object

**Slide #5: Objective 1**

We talked about digital objects last week. Can anyone describe a digital object, or give examples?

###### File sizes and Formats

We also talked a bit about file sizes and file formats last week – we’re going to look a little closer at why this is important for your digital objects.

**Slide #6: File size**

As a way to think about digital objects, formats and sizes, we’re going to use the analogy of socks.

*Why are we concerned about the size of a file?*

* Storage space
* Speed to transfer the object from the computer to removable storage, or from a device to the internet

*There are several factors that affect the size of a digital object.*

For photos, the essential factor is how many dots per square inch of area (dpi) the photo is made up of, while audio is measured in the amount of signal (which makes sound) per second.

Characteristics that directly affect the size of a file:

**Actual size** of object – the length of a recording, the dimensions of an image

Image quality – format, compression

**Format** of the object

We spoke a fair bit in the first module about formats, and will be speaking today and in later modules. Formats are very important.

File formats refer to the way in which digital information is captured and stored.

All digital objects have some sort of format.

Can anyone name some formats:

What format a digital object will take depends on what?

* the medium of the object (text, audio, photo, etc.)
* the hardware and software that created or saved the object

Why are file formats relevant during the creation and capture phase?

**Compression**

Some formats allow you to compress the data that makes up for digital object – this makes the file smaller, sometimes much smaller. You will lose some quality, but not enough to really make a difference in quality of the finished product

**Slide #6: Socks**

I’m going to use a metaphor here – socks. We all wear socks, we all have socks. I like socks more than other people, and probably have too many, since, on laundry day, I have a hard time fitting my socks in my drawer. What can I do about this problem?

Fewer socks – I can get rid of the ones I don’t want, or don’t need. Duplicate pairs perhaps….

**Slides #7-8: More socks**

Choose socks of a different material – instead of all those wooly socks that take up so much room, I can get nylon, thin cotton or silk socks, that will take up much less room. This is like using JPEG instead of TIFF for my photos

I can get short socks instead of all those knee length socks – this is like cutting out the pieces of audio and video I don’t want

But what I end up doing is squishing all those socks so I can get the drawer closed – like using compression for an audio recording – I make it an MP3

Some of this happens at the creation/capture phase, some during the modification phase.

There is overlap here – it’s not always completely cut and dried when you are creating and when you are modifying

We’ve provided an online guide and a handout listing the most common kinds of storage, how much they generally cost, how much data they can hold, and the minimum you’ll need for your project.

Things to note about storage:

Think of where you’ll want to “play back” your project. If you want to watch your videos on your TV, does it have a USB port, or will you need to burn it to a DVD?

The cost of storage devices can have a pretty big range. Try for big brands for better quality. Also, the transfer speed is going to raise the cost. For example, a 16 GB USB 3 will cost much more than a regular USB, but your files will save much faster, which is important when your computer time is limited. Large video files, especially high definition files, can take a surprisingly long time just to save to a USB, and MUCH longer to burn to a DVD.

Let’s look at George and Patty’s format choices and storage needs. Patty, as we recall, intends to publish a physical “book” of scanned photographs. She wants the pictures to look nice, so she experiments a bit with the scanner, different formats, and the level of compression she’s using. Photos that are going to be printed will need to be higher quality than photos just meant to be looked at online. Patty can soon see that her photos are going to take up a LOT of space. She’s also got video files to think about on top of that. She decides it’s worth the investment to buy an external hard drive that holds two terabytes, and has very fast transfer rate. She has also bought some large capacity USB sticks, so she can back up her files (a process that won’t eat in to her lab time – she can do it from any computer)

George’s choices are going to be different. He doesn’t want print photos – just the opposite. He will be using compressed JPEG’s, so even a fairly huge photo collection won’t take up too much storage space. George will also want to view his photos as a slideshow, so he’s also going to burn them to DVD, as his TV is a bit older and isn’t USB compatiable.

So George and Patty have considered their file formats and storage, so they are going to want to know what they’ll be using in the Lab for the creation step of their projects.

## Objective #2: managing your digital objects

**Slide #9: Managing objects**

Last time we talked about saving/storing your digital objects – what is referred to as “file management”

**Slide #10: File/folder structure**

* The computer’s directory
* Folder and file structure
* Naming practices

Folders and good naming practices

**Slide #11-13: Naming files**

* Give each project a uniquely named folder and put all the source files (planning documents, audio and video clips, photos, text, etc.) in it.
* Within that folder, it’s best to create subfolders for each type of content if you have more than one example of each, for example, “MyProject\audio”
* If you are including a number at the beginning of a file name, it’s best to use a two-digit number, i.e. 01 to 99. Otherwise, once you get to the 10th item in your list, they won’t sort properly.
* Similarly, if you want to but a date in your filename, use the pattern YYYYMMDD. This way they will sort in chronological order
* If you want to save multiple versions of the file, end the file name with “\_v01”, “\_v02”, etc.
* Avoid using non-alphanumeric characters (!@#$%&\*...) other than dashes (“-“) and underscores (“\_”).
* Keep filenames short while remaining meaningful.

As part of your planning process, have your file structure spelled out and set out before you even start to capture your digital objects. You can do this on ANY computer using your portable storage.

Always indicate whether the files/objects are the masters/original captures. When you are modifying, make COPIES of these files for the editing phase, in case anything goes wrong.

## objective #3.1: capturing images and sound – taking photos/recording audio and video

**Slide #16: Objective 3**

###### Capturing images – (aka taking photographs)

Most of the photos you’ll use for your digital project – digital or otherwise, will have been taken using non-VPL equipment, as ours does not leave the Lab area.

For your own devices, consider the settings to manage for file sizes. They differ from device to device. Also consider how you are going to transfer digital files over – you’ll need the right cables or perhaps an adapter if you don’t have a removable storage device like and SD card.

## **Start Tour**

###### Recording original audio

The Inspiration Lab has multiple facilities for recording all sorts of audio.

**Microphones**

Microphones pick up sound and convert them into a digital format. There are many different types of microphones used to record sound. Some work best for one type of recording, some for another.

There are several directional settings for microphones that you need to keep in mind, depending on your project

* One setting picks up only sound directly in front of the microphone. This is good for a single person.
* Another setting picks up sound both in front and behind the microphone. This is good for an interview.
* The third setting picks up sound from all directions. It picks up sound from several sources, but of course creates the possibility that you are picking up sound you DON’T want. You’ll either have to re-record, or clean up the sound during the editing process.

**Mixers**

Mixers are also known as soundboards, mixing consoles, audio mixers, mixing desks and audio production consoles. Their purpose is to

* adjust sound settings on your recordings – like sound levels
* combine sound from multiple sources,
* output your sound into speakers, headphones or a recording system.

VPL has two different mixers. They look very complicated, but it is possible to make good use of them by using very few of the controls. We provide illustrated guides to our mixers on the Inspiration lab help pages.

*Parts of a Mixer*

**Input section**

This is where the sound from your source (microphone or a musical instrument) comes in. There is a jack to plug the microphone into.

**Channel strip section**

This is where you modify the signal from each input.

**Main Section**

This is where you set the final levels and send the audio off to be recorded.

###### Recording video

**In the Lab:**

The Inspiration Lab has a recording booth/studio equipped

* Video camera
* Tripod and dolly
* Green Screen
  + A green screen is a plain background that allows you to insert a custom background during the editing process
* LED Lighting

Aside from learning to use the equipment, build in some time to learn some basic videography techniques – composition and lighting for example – to really make your digital project stand out.

## objective #3.2: digitization

Digitization in the Lab involves taking an image, sound recording or video that is in a more physical format, and transforming it into a digital format.

A few important things to keep in mind during the digitization process:

* Choosing your formats
  + Speed and space
* Where are you saving your digital objects
  + If you save to the computer, which is the default, you’ll have to re-save your digital file, which takes time
* Naming your digital objects
  + It is much easier to name things well the first time than go back and do it later

###### Digitizing still Images

**In the Lab**

To digitize all those images – photographs, slides, negatives or any other still image – you will be using our flatbed scanner.

**Saving scanned images**

The default format on the scanner is to save your scanned images as JPEG’s, with a 300 dpi resolution and a 16 compression level. This setting is optimized for the retention of image quality while maintaining a reasonable file size. It is considered more than sufficient for positive images that will be used digitally.

You may wish to adjust these settings if:

* You are using slides or negatives
* You plan on print out your images
* If you plan on enlarging your image after scanning, especially if you intend to print that image afterwards.

Some differences in file sizes:

90 dpi (minimum standard for saving uploading photos to the web): 843 KB per image

300 dpi (for images that will remain digital or medium quality printed images): 1 to 4 MB per image

600 dpi (for slides and very high quality images that will be printed): 4 to 10 MB per image and UP – very high resolution images with very low compression rates (or no compression at all) can be HUGE (let’s experiment when we go and have a look at the scanner)

###### Digitizing Audio

**In the Lab:**

The Lab has one station where audiocassettes can be converted to digital format. Digitization is done in real time, so give yourself enough time, and bring a book to pass the time.

###### Digitizing video

**In the Lab:**

The Inspiration Lab has three workstations where you can digitize video – VHS cassettes and 8 mm cassettes.

We also provide a digitization station where you can hook up your camera or VCR if:

* Your cassettes are in another physical format
* If your video was recorded using another format (ie. from a camera purchased outside of North America) – North American video is in a format called NCTS, while many other countries use a format called PAL

The current equipment in the Lab may change, if we get people asking for other formats – so make sure you let us know.

A specific concern for digitizing video is file size and DVD’s. You may very well wish to burn your video to a DVD so you can play it on a TV and DVD player. A full two hour video, however, is just barely too big for a larger sized DVD - 8 ½ GB.

You may wish to save your two hour video to a USB or removable hard drive, then use the editing software to cut out bit you don’t want.

Just like audio, video gets digitized in real time. If you are digitizing a two hour video, bring a book.

## objective #3.3: creation/authoring

There are programs that can be used for authoring text available in the Inspiration Lab – Word, Illustrator Sigil and InDesign.

There is a good chance, however, that if someone is writing a long document (like a novel), they are going to have created it outside of the Lab. They are likely to have used some kind of word processing program like Word or Open Office. Please note, you will have much more success using the actual conversion facilities in the Inspiration Lab rather than copy+paste. Also, the less formatting used in the word processing program, the better the conversion process will go.

**Word**

The most known text authoring (aka word processing) program. You can author your book in either Sigil or InDesign, our other text authoring program, but why would you? Word is where most authors are most comfortable, and more easily available.

Both Sigil and InDesign are built to allow importing text from Word and converting formatting. It isn’t always automatic to transfer over all formatting, but the process is reasonably straightforward.

**Sigil**

Sigil is a program to write and/or edit eBooks. Sigil’s default format is ePub, which is quite standard for eBooks. You can choose to write or edit original text in a simple text editor, or using HTML coding.

**InDesign**

InDesign is an industry standard desktop publishing tool. You will be learning about this program in module #3, as it is used for manipulating images and text more than for creating or capturing.

**Illustrator**

Many other software programs, even Word, let you draw a picture with your mouse, but if you want to draw computer graphics, this is the one you should choose.

Full-on computer animation is NOT possible using this program, but you can use Illustrator to draw individual frames, and then use other programs to make an old fashioned cartoon: Photoshop to capture the images, and Premiere to put them together and add sound.

## **End Tour**

## objective #4: Permissions and copyright for creators

**Slide #27: Objective 4**

Ask: IF YOU TAKE A PHOTOGRAPH, WHO HOLDS THE COPYRIGHT?

name different video formats?

**Slide #28: Gift**

You can choose to give that permission away – we’ll talk about that in more detail in Part III, when we go into detail about sharing your digital project.

At the creation stage, the more important thing to think about is using the image or voice of people you want to include in your project.

If you are using an audio or visual representation of a person, and you intend to share it out, you may wish to have written permission. This becomes VERY important for commercial usage.

**Slide #29: Release form**

Does anyone intend to try and make money from their digital project? Make sure you have release forms ready that specifies you have and keep the right to use the digital objects you have captured.

## objective #5: getting help

**Slide #30: Objective 5**

Need more help? Vancouver public library provides many ways to attain the technical skills you will need for your digital project. These include:

Tell the attendees about other upcoming VPL courses or programs**!**

**Do not encourage to sign up for a repeat class.**

* **Tech Cafés**
  + this is a regular drop-in program where people can come in to practice their more basic computer skills. Events Calendar
* **Slide #31: Inspiration Lab help page**
* **Our in-house online Inspiration Lab guides**
  + These online guides provide overviews of the Inspiration Lab technology, and hook in to self directed learning resources such as Lynda.com
* **VPL’s book collection**
  + If you prefer a print manual to look through on your own time, or to have on your lap, we offer a wide selection of technology books to support you during your project.
* **Slide #32: Inspiration lab events page**
* **VPL’s in person courses** 
  + Refer to the events brochures and online events calendar – there is a category for Inspiration Lab specific courses
* **Slide #33: Inspiration lab Help page**
* **Lynda.com**
  + Lynda.com is a massive collection of high quality educational videos, which include sample project files for you to practice the skills you are gaining. Any project you think you’d like to do, you can likely find multiple resources on Lynda.com. All Inspiration Lab software is covered in detail – from complete beginner to fairly advanced photography, audio and video production
  + Lynda.com is available at any VPL workstation, and is available remotely for Vancouver residents with an active library card.
* **To access any or all of these resources, ask Information staff at the library, or contact us** during library hours at 604-331-3603, by email at [info@vpl.ca](mailto:info@vpl.ca) a branch in person

## Closure & Evaluation

**Slide #36: Thanks**

Thank you for attending. Over the next two weeks we will be offering the last 2 courses that will cover the remaining steps of a digital project:

* Modifying Digital Files
* Saving and Sharing Digital Files

***Trainer Tips***

*Take note of whether the remaining sessions in this course are fully subscribed already. If they are not, encourage patrons to register for the remaining sessions.*

Please remember to fill out your evaluation form – it is very helpful for our team to determine the types of course you would find most useful! If there are any other elements that you would like to see covered, we’d love to hear them.