Session 2

### **Why do we use the shell?**

Graphical User Interfaces’ (GUI’s) are the most widely used way to interact with a computer. A GUI allows us to give instructions to the computer by pointing, choosing and clicking with a mouse. Whilst this visual aspect is great day to day, it is actually a very slow way of inputting commands to the computer. If you were given the task of moving 100 different files, that are in 100 different folders, to one folder it would take a long time. This kind of repetitive task can be done automatically, and therefore, much more efficiently using the Unix shell. It is both a **command-line interface** (CLI) and a scripting language. With the proper commands, the shell can repeat tasks with or without some modification as many times as needed.

**The Shell**

The shell is a program that allows users to type commands. The most popular Unix shell is Bash (the Bourne Again SHell — so-called because it’s derived from a shell written by Stephen Bourne).

Learning to use the shell is like learning any other language. There are a few commands that need to be learnt before you can really get going.

The shell allows you to combine existing tools into powerful pipelines, as well as handle large volumes of data automatically. Scripts can be made that contain sequences of commands.

It is often the case that the easiest way to interact with remote machines and supercomputers is via the command line. Familiarity with the shell is near essential to run a variety of specialized tools and resources including high-performance computing systems.

**Getting Started**

When the shell is first opened, you are presented with a **prompt**, indicating that the shell is waiting for input.

The shell typically uses $ as the prompt. There is no need for you to write the prompt, it will be there automatically. All commands are written after the prompt

The first command, and actually one of the most useful, that we will look at is ls. This is short for listing. This command will list the contents of the current directory:

$ ls

Desktop Downloads Movies Pictures

Documents Library Music Public

## Try it out in your own shell.

## Now try typing js. You will see that js isn’t a command and an error message is shown.

$ js

-bash js: command not found

**Takeaways**

1. The shell programs main purpose is to read commands and run programs.
2. The shell’s main advantages are its ability to automate tasks, and its ability to access networked machines.