PRINTING PROCESS

AT SWINBURNE'S LIBRARY

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Swinburne University of Technology
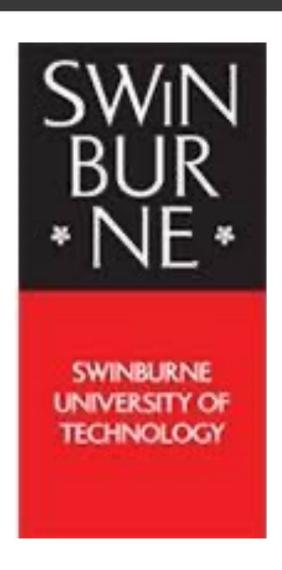
- a leading university, founded in 1908
- known for high-quality research with particular strengths in materials science, computer science and information technology, design and innovation
- 3 campuses located in Melbourne

Swinburne University of Technology

Insert the title of your subtitle Here

PURPOSE
- Provide needs for students

FOCUSED PROCESS
- Printing process at Swinburne libraries

BUSINESS AREA
- A higher education industry
- Provide data operation and education services

Process Model

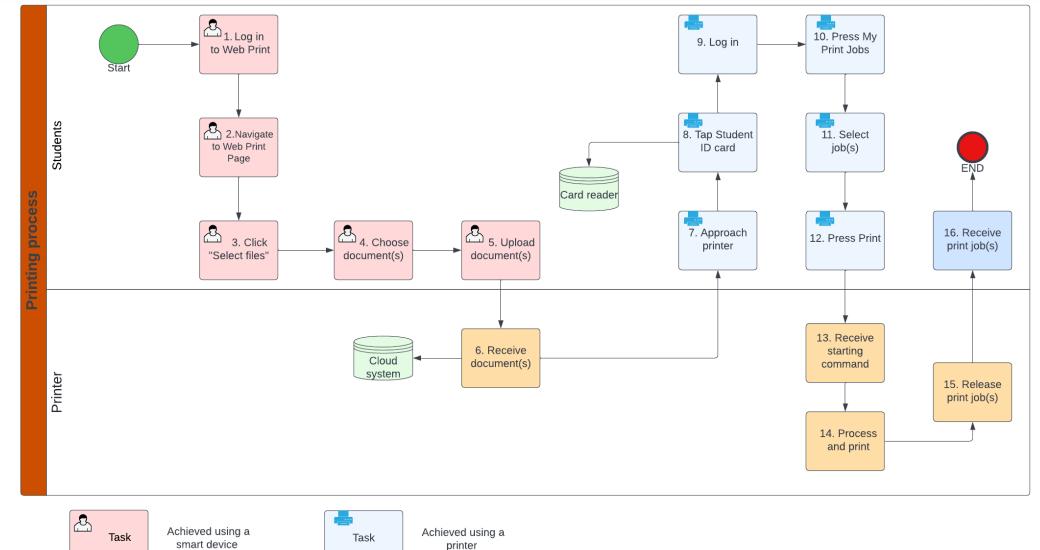PROCESS: PRINTING PROCESS AT SWINBURNE'S LIBRARY

Table showing
Data that the process reliant on

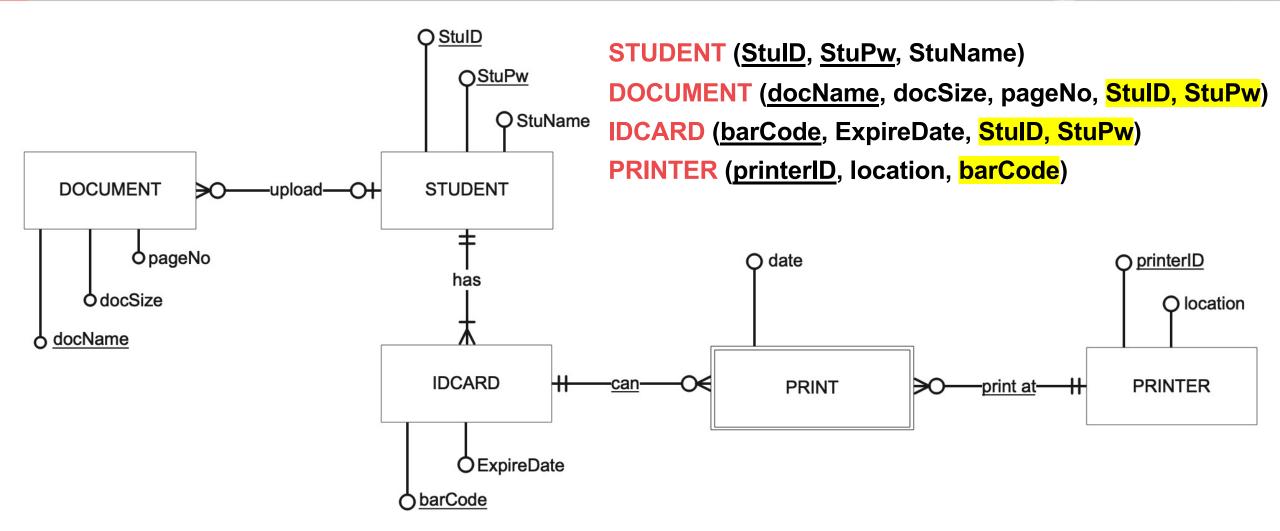| TASK	Task Description
3. Upload the document(s)	Students click on select files, choose the document(s) they want to print, and upload them. The printer receives the documents and store them in the cloud system. **I/P:** documents **O/P:** none **Tech:** internet, internet browser, monitor, smart devices, cloud system **S.P:** Internet System provider, Monitor BM, cloud provider
4. Start the printer	Students approach the printer and start it by tapping the Student ID card at the printer **I/P:** student ID card **O/P:** none **Tech:** card reader machine, printer **S.P:** tech suppliers

TASK	Task Description
5. Log in at the printer	Students enter the student ID, password at the printer using the printer screen **I/P:** student ID and password **O/P:** none **Tech:** printer **S.P:** tech suppliers
6. Printing setting	Students press "My print jobs", and select the job(s) they want to print. Then, press "Print" to start printing (as long as they have enough credit in their balance). **I/P:** none **O/P:** none **Tech:** printer **S.P:** tech suppliers

*See appendix A for the entire table
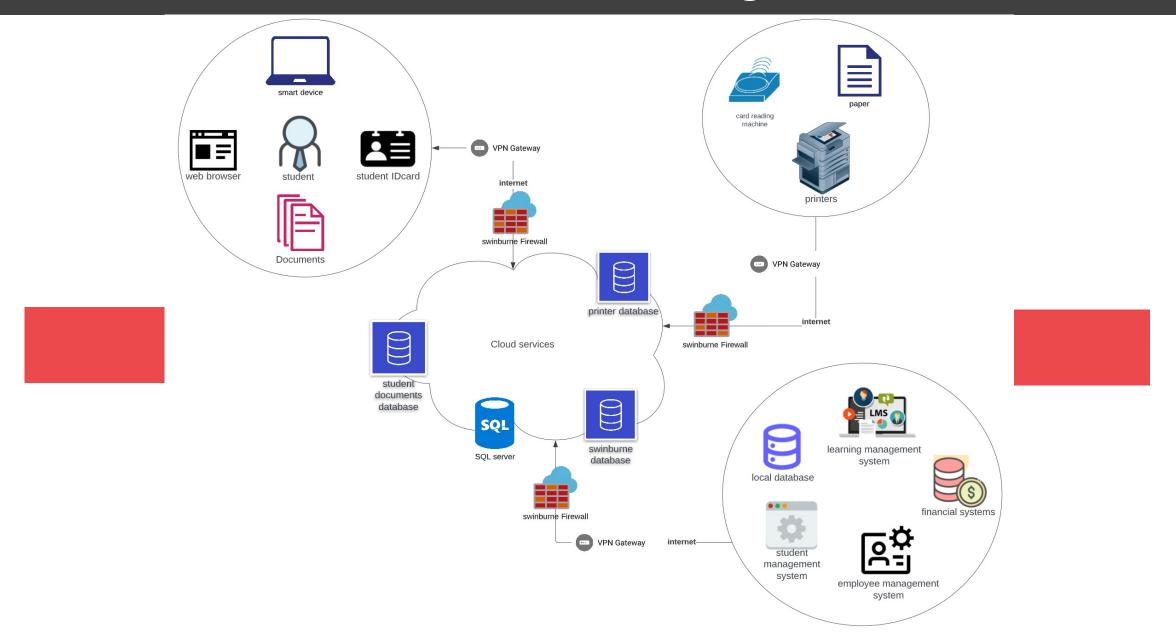
Entity Relationship Diagram

Core entities, attributes

STUDENT (<u>StuID</u>, <u>StuPw</u>, StuName)

DOCUMENT (<u>docName</u>, docSize, pageNo, <mark>StuID, StuPw</mark>)

IDCARD (<u>barCode</u>, ExpireDate, <mark>StuID, StuPw</mark>)

PRINTER (<u>printerID</u>, location, <mark>barCode</mark>)

Architecture Diagram
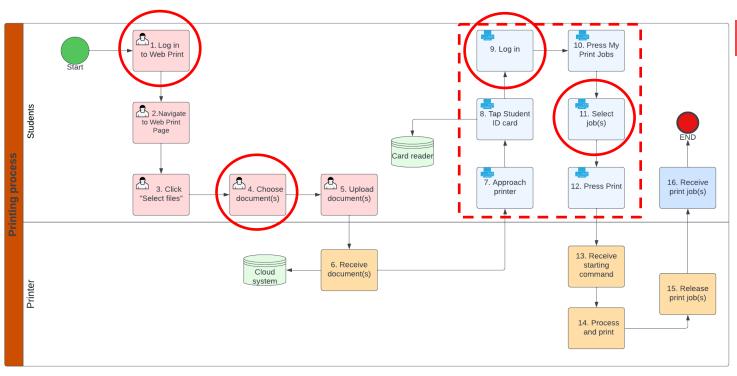
PROBLEMS

Original Printing Process

PROBLEMS

Have to change between different devices, work directly at the printer could cause:

Bottleneck
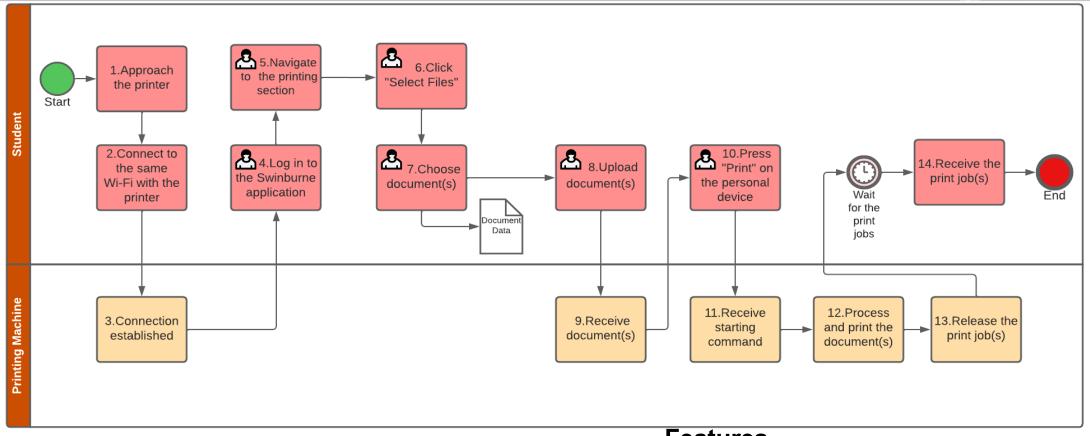- Delay in the process
- Annoyance, fatigue

Duplication
- Time-consuming
- Complicated

New Printing Process 🖨

Using Wi-Fi Printer with the printing menu in the Swinburne application

Student

- Start
- 1.Approach the printer
- 2.Connect to the same Wi-Fi with the printer
- 4.Log in to the Swinburne application
- 5.Navigate to the printing section
- 6.Click "Select Files"
- 7.Choose document(s)
- Document Data
- 8.Upload document(s)
- 10.Press "Print" on the personal device
- Wait for the print jobs
- 14.Receive the print job(s)
- End

Printing Machine

- 3.Connection established
- 9.Receive document(s)
- 11.Receive starting command
- 12.Process and print the document(s)
- 13.Release the print job(s)

Task — Achieved using a smart device

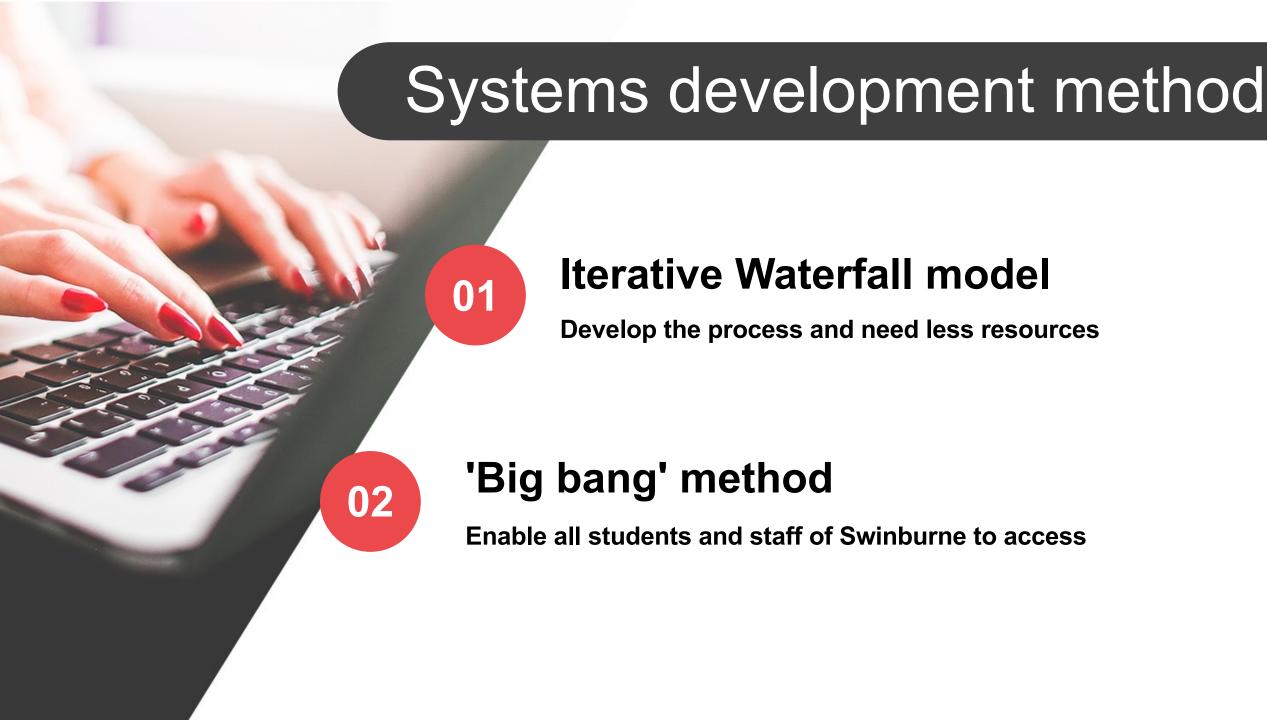## Features

- ➢ One online platform (Swinburne application)
- ➢ Manual tasks: From 12 to 9
- ➢ Time: Take less than 5 to 7 minutes ⌛

Systems development method

01 **Iterative Waterfall model**

Develop the process and need less resources

02 **'Big bang' method**

Enable all students and staff of Swinburne to access

Value, Benefits and Concerns

Print slowly or have print problems when the network is busy

The range of a wireless network can be a significant constraint

A wireless router or access point is required

Complicated initial step to install and connect printers.

Open up potential cybercrime and privacy

More convenient

Saving time

Increase safety during a pandemic

Reduce confusion to new students

Easier to control the printing credit

Connected with many devices

Reduce the number of wires needed

Ability to place the printer anywhere

References:

- ALL PPT n.d., *Computer Business Using Laptop PowerPoint Template*, viewed 12 May, 2022, <https://www.free-powerpoint-templates-design.com/computer-business-using-laptop-powerpoint-template/>.

- Services, L., Help with Wi-Fi, I. and Printing, C., 2022. *Printing, copying and scanning*. [online] Swinburne.edu.au. Available at: <https://www.swinburne.edu.au/library/services/wifi-it-help-services/print-copy-scan/> [Accessed 11 May 2022].

- University of Technology, S., 2022. *Our university*. [online] Swinburne.edu.au. Available at: <https://www.swinburne.edu.au/about/ouruniversity/#:~:text=Swinburne%20University%20of%20Technology%20is,gaining%20university%20status%20in%201992.> [Accessed 11 May 2022].

Appendix A

Table showing the detailed description and data that the process reliant on

TASK	Task Description
1. Log in to Web Print	Students access to the web print website and log in with their student ID and password **I/P:** Student ID, Password **O/P:** None **Tech:** internet, smart device **S.P:** Internet System (I.S) provider, tech suppliers
2. Navigate to Web Print page	Students click on the Web Print page **I/P:** None **O/P:** None **Tech:** internet, smart devices **S.P:** IS provider, tech suppliers
3. Upload the Document(s)	Students click on select files, choose the document(s) they want to print, and upload them. The printer receives the documents and store them in the cloud system. **I/P:** documents **O/P:** none **Tech:** internet, internet browser, monitor, smart devices, cloud system **S.P:** I.S provider, Monitor BM, cloud provider
4. Start the printer	Students approach the printer and start it by tapping the Student ID card at the printer **I/P:** student ID card **O/P:** none **Tech:** card reader machine, printer **S.P:** tech suppliers

TASK	Task Description
5. Log in at the printer	Students enter the student ID, password at the printer using the printer screen **I/P:** student ID and password **O/P:** none **Tech**: printer **S.P**: tech suppliers
6. Printing setting	Students press "My print jobs" and select the job(s) they want to print. Then, press "Print" to start printing (as long as they have enough credit in their balance). **I/P:** none **O/P:** none **Tech:** printer **S.P:** tech suppliers
7. Printing operation	The printer receives starting command, it processes and prints the document(s) **I/P:** none **O/P:** none **Tech:** printer **S.P:** tech suppliers
8. END	The printer releases print job(s). Students receive the print jobs **I/P:** None **O/P:** the print jobs **Tech:** printer **S.P:** tech suppliers

Appendix B
New Printing Process Table

TASK	Task Description
1. Establish connection with the printer	Students approach the printer and connect to the same Wi-fi network with the printer. **I/P**: None **O/P**: None **Tech**: Internet, Smart device **S.P**: I.S providers, Tech suppliers
2. Log in to the Swinburne application	Students log in to their Swinburne application account using student ID and passcode. **I/P**: Student ID, Password **O/P**: None **Tech**: internet, smart device **S.P**: I.S providers, tech suppliers
3. Navigate to the printing section	Students click on the Printing menu in the application. **I/P**: None **O/P**: None **Tech**: Internet, smart devices **S.P**: IS provider, tech suppliers
4. Upload the document(s)	Students click on select files, choose the document(s) they want to print and upload them. The printer receives the document(s). **I/P**: Document(s) **O/P**: None **Tech**: Internet, Smart devices, Cloud system **S.P**: IS provider, Cloud provider

TASK	Task Description
5. Printing operation	The students press "Print" on the menu on their personal device. The printer receives starting command, it processes and prints the document(s) . **I/P**: None **O/P**: None **Tech**: Printer **S.P**: Tech suppliers
8. END	The printer releases print job(s). Students receive the print job(s). **I/P:** None **O/P:** The print jobs **Tech:** Printer **S.P:** Tech suppliers