

## **Criterion A - Planning**

### **Problem Statement:**

The Lost&Found volunteers at ISB spend a lot of time manually labeling items that have gotten lost.<sup>1</sup> The team also uses a “log book”, and there can be issues relating to unclear handwriting as well as losing the log.<sup>2</sup> When a student comes to pick up a valuable item, it can be difficult for volunteers to locate the log within the paper logbook.

### **Description of Scenario:**

The Lost&Found volunteers at ISB store and keep track of items that had been lost at the school. Students can check-in to the Lost&Found office when they are trying to find a lost item. My clients are the Parent Teacher Association President(Mrs. Tostevin).<sup>3</sup> Both are working to make the Lost&Found system more efficient and organized. The Lost&Found volunteers label items using masking tape and categorize them manually.<sup>4</sup> This takes time and when a student comes to pick up a valuable item, the volunteer must locate the particular log in the logbook.

### **Rationale for the proposed product:**

Since the team is working to improve efficiency and organization, automation via a computer program is a good solution. My program will save time by generating “barcode labels for items” that can be printed in bulk as requested by the client.<sup>4</sup> The database feature of the program will also help to log lost items and help in the sorting and searching process of items.

- A computer program makes processes more efficient and eases the human workload.
- A GUI application allows the user to interact with the program as operators of Lost&Found will not necessarily be tech-savvy.
- The Netbeans IDE includes an editor, compiler, and debugger.
- The Netbeans IDE can also work with libraries which will be useful for creating barcodes
- Java is a good language for this project as it allows for encapsulation and inheritance.
  - The generation of barcodes is a repetitive process with some variation, so encapsulation is useful.
  - The Java Virtual Machine can also be run on any operating system which is convenient for users.

Word count: 65 (the bulleted list does not count)

---

<sup>1</sup> Dunke Tostevin, interview by author, Bangkok, November 26, 2020, transcript question #5, Appendix A

<sup>2</sup> Dunke Tostevin, interview by author, Bangkok, November 26, 2020, transcript question #6, Appendix A

<sup>3</sup> Dunke Tostevin, interview by author, Bangkok, November 26, 2020, transcript question #2, Appendix A

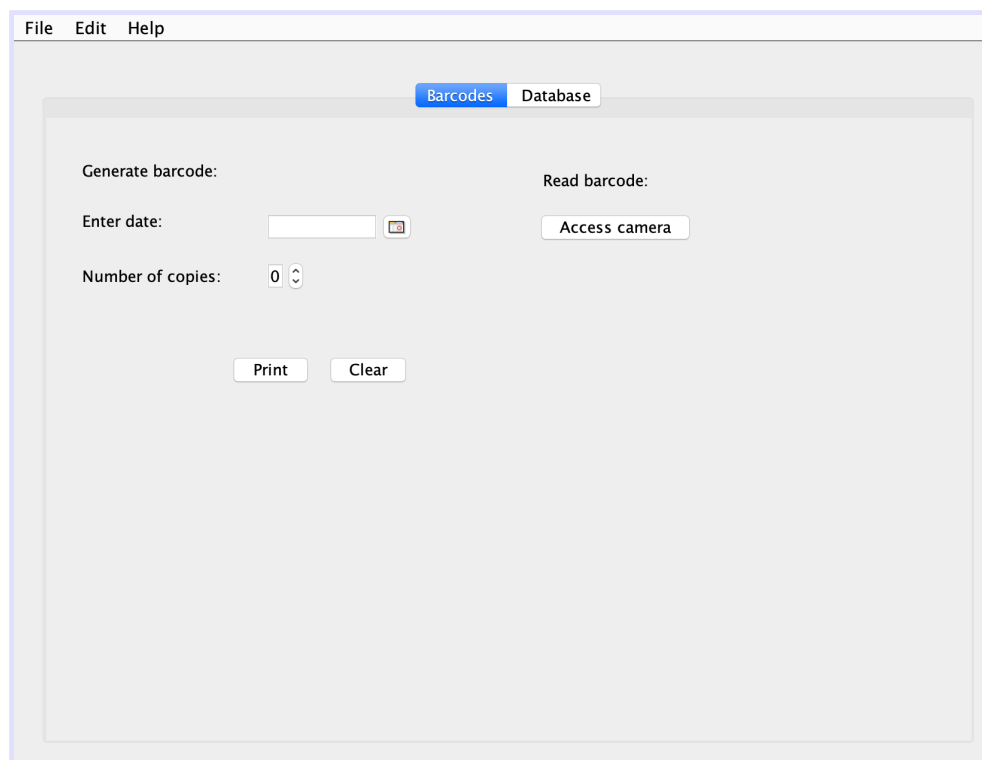
<sup>4</sup> Dunke Tostevin, interview by author, Bangkok, November 26, 2020, transcript question #8, Appendix A

## Success criteria for the product:

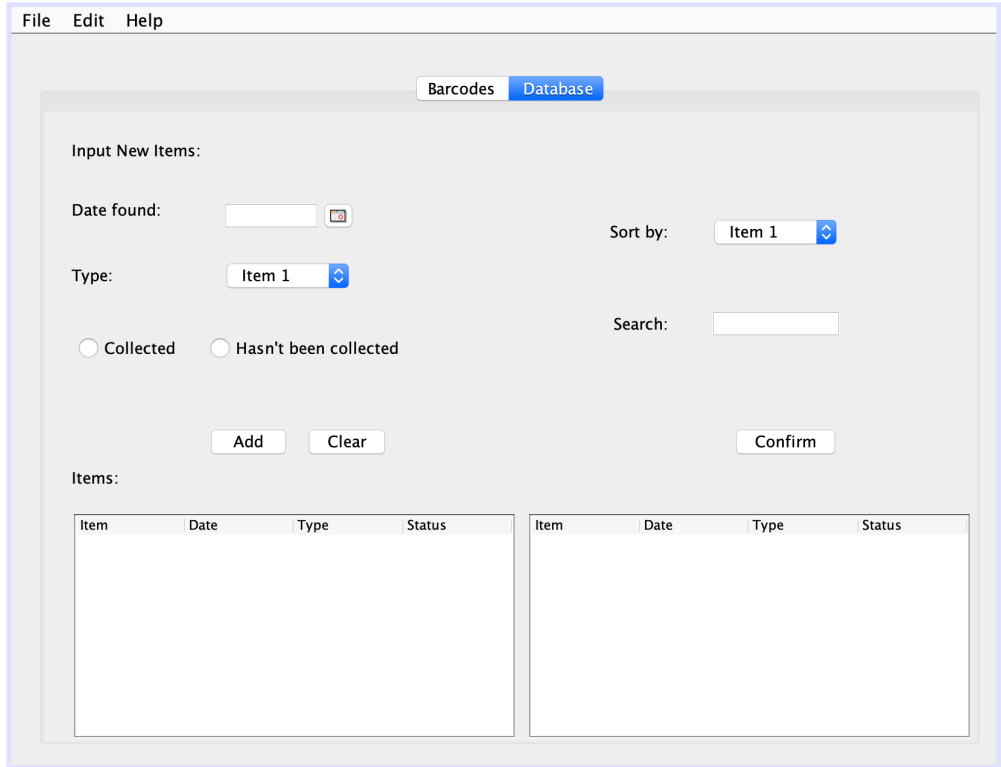
- The program includes a barcode generator for the date the item was found.<sup>4</sup>
- The user will be able to specify the number of barcodes they want to generate.
- The program will provide an option for printing this barcode.
- Information about the items will be able to be manually inputted into the program (e.g. name, date, type, and status information).
- Error handling so that the user is required to input information in the correct format
- The program will handle lost items vs. collected items appropriately
  - If the item is collected, information about the collector can be inputted into the program
  - If the item is still lost, information about whether it has been lost for more than four weeks can be inputted
- The user will be able to add new items
- Keep track of how many items have been inputted
- Can sort items by name, type and date found. Result will be displayed in the display table
- Can search for items by name, type and date. Result will be displayed in the display table
- The log of items will link to an excel spreadsheet.<sup>5</sup>

## Prototypes:

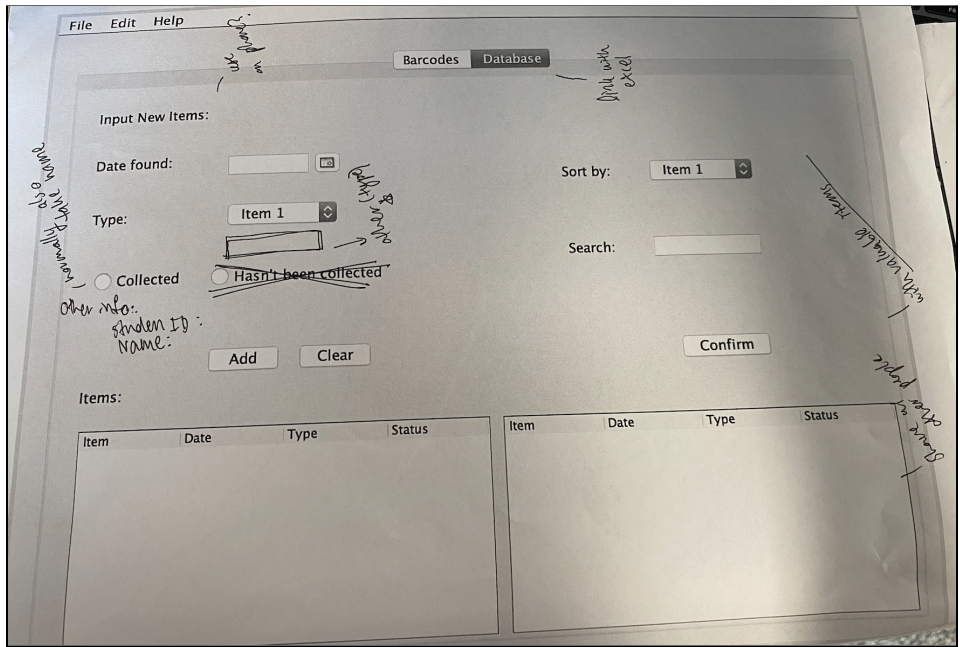
### 1st Prototype of product:



The image shows a web application prototype with a menu bar containing 'File', 'Edit', and 'Help'. Below the menu bar, there are two tabs: 'Barcodes' (which is active) and 'Database'. The main content area is divided into two sections: 'Generate barcode:' and 'Read barcode:'. Under 'Generate barcode:', there is a form with 'Enter date:' followed by a text input field and a calendar icon, and 'Number of copies:' followed by a numeric input field with a spinner. Under 'Read barcode:', there is a button labeled 'Access camera'. At the bottom of the form area, there are two buttons: 'Print' and 'Clear'.



Marked Prototype:



Note: 'Barcodes' tab has been completely approved by client, so no marking.

Suggested Changes:

The meeting went well. My client was completely satisfied with the barcode tab. However, she did make suggests to the database feature. Her suggestions are listed below:

- Link database with excel
- Request to use the program on the phone if possible
- Item options need to be for 'valuable items'
- 'Other' user input textbox should be added after the 'valuable items' options
- Delete 'Hasn't been collected' checkbox
- If 'Collected' checkbox is checked, textboxes for 'student name' and 'student ID' need to be shown under it.

2nd (Changed) Prototype of the product:

File Edit Help

Barcodes Database

Input New Items:

Date found:

Type:  Other:  Sort by:

Collected

Name of collector:

ID of collector:

Search:

Confirm

Excel Sheet

Add Clear

Items:

Item	Date	Type	Status
------	------	------	--------

Items:

Item	Date	Type	Status
------	------	------	--------

Note: Only made edits to the 'Database' tab of the program as requested by my client.

Word count: 243

comments

grade

---

**Other Documents:**

[Interview 1 Audio](#)

[Interview 2 Audio](#)

[Interview Transcripts as other files](#)