

## Criterion B: Solution Overview

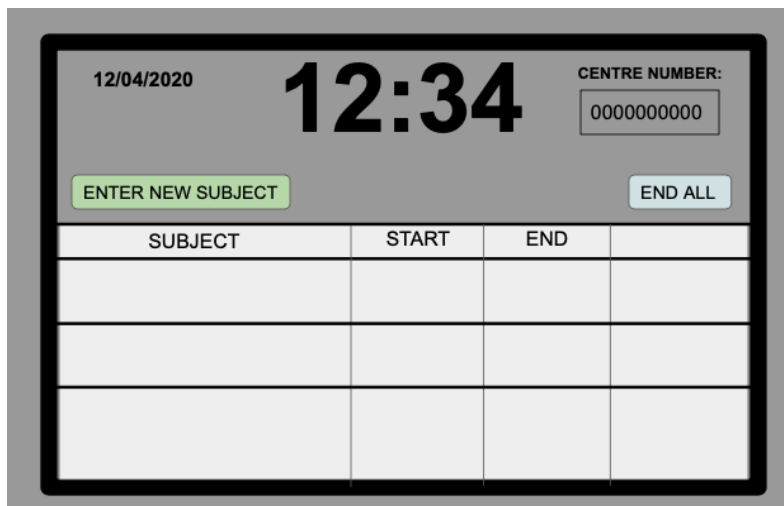
### 1. Design of the Solution:

These are the sketches of what program should approximately look like:

The starting page of the program has the title and a “start button”. It takes the user to the main screen.



This is the main page of the app. It displays the yet empty table, current date and time, also has an entry for centre number, buttons for finishing all exams “end all” and to input information “enter new subject”.



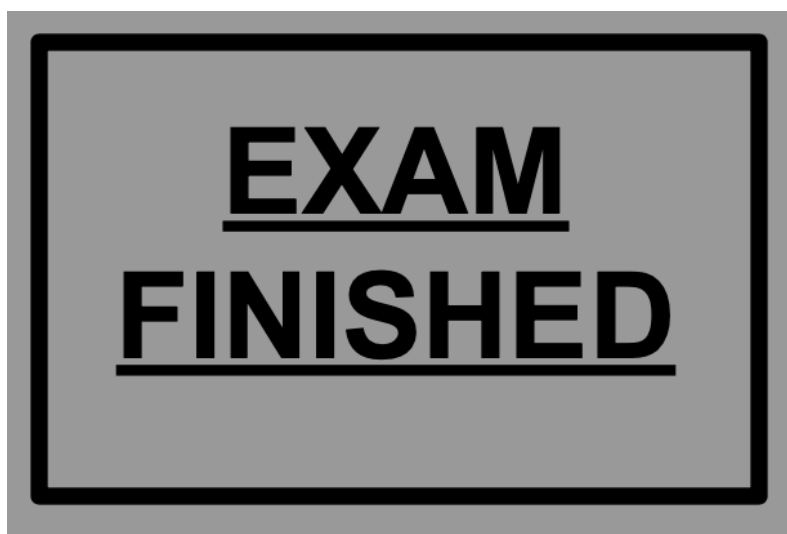
This i show the app looks like during an exam. It shows one finished exam, an exam that is about to finish so there is a warning sign, and a running exam.

The screenshot shows a digital interface for an exam. At the top left, the date is 12/04/2020. In the center, a large digital clock displays 12:34. To the right, there is a field for 'CENTRE NUMBER' with the value 0000000000. Below these elements are two buttons: 'ENTER NEW SUBJECT' (green) and 'END ALL' (grey). A table lists the exam subjects and their durations:

SUBJECT	START	END	
SPANISH B HL	10:00	12:00	FINISHED
GEOGRAPHY GCSE !	11:00	12:39	END
MATHS AI PAPER 2 SL	12:00	13:00	END

The 'GEOGRAPHY GCSE' row features a red exclamation mark next to the subject name, indicating that the exam is about to finish.

This is the final page which appears after the “end all” button is pressed.



As was requested by the client, the user interface is easily understandable, it is not challenging to navigate it. The font used is bold and large so it can be viewed from a distance. The interface does not contain any distracting patterns or unfitting labels/information. The red color of the exclamation mark supports the intention as it is supposed to warn the students that the exam is finishing soon. As a base for the design, I took a sketch the client showed during the first meeting. I remodeled it to make it look more clear and sufficient for the user.

#### Database Table Design

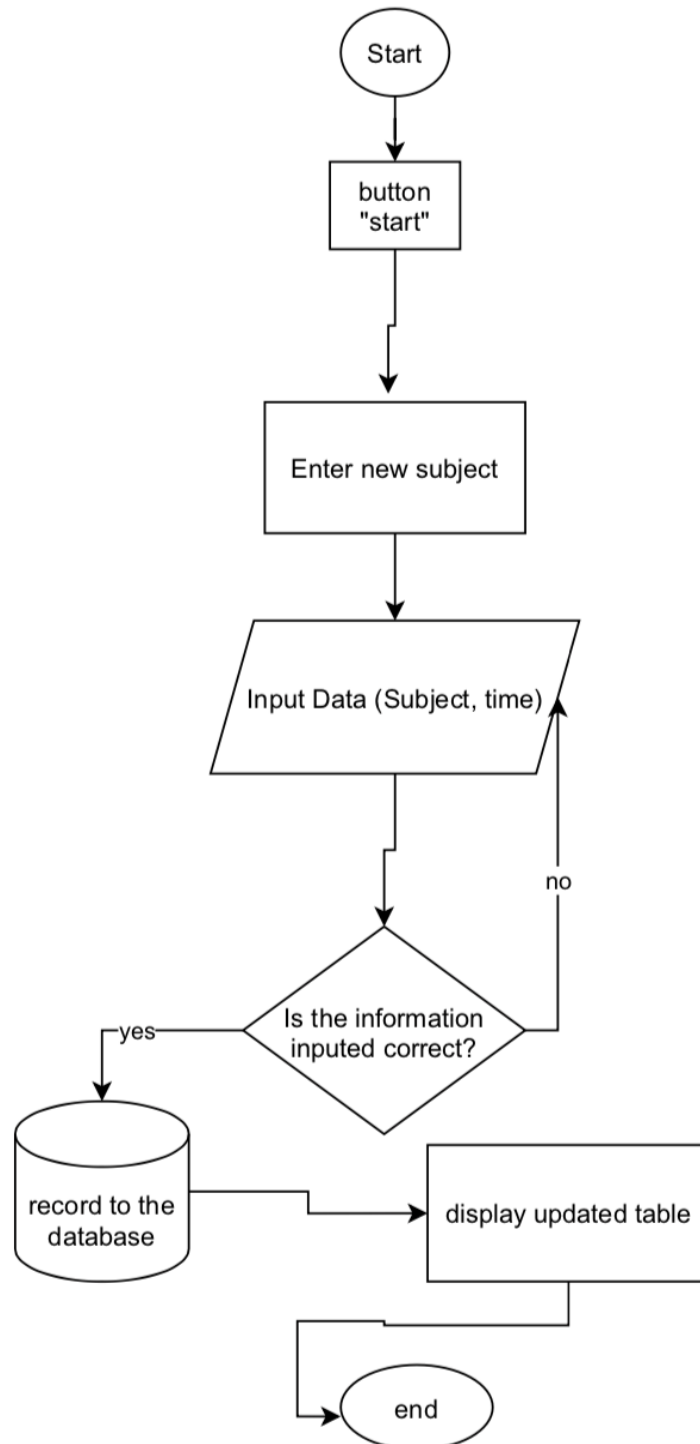
Field Name	Data	Type	Default	Description
Subject	String	Varchar(100)	None	The subject title
Start time	String	Varchar(6)	None	The starting time of the exam
End time	String	Varchar(6)	None	The finishing time of the exam

## 2. Testing Methodology:

Function	Methodology & Results
Check if the start button works	Click the button and the empty table should display
Check if the program displays the correct date	Program should display current date in the format DD/MM/YYYY
Check if the program displays the correct time	Program should display the current time in the format HH/MM/SS - renews every second
Check if the table displayed is empty	There should be no filled or spare blanks displayed, only the labels for future table and functionality buttons
Check if the "Enter new subject" button works	Click the button and see if it displays entry window (includes entries for subject, start time and end time)
Check if the subject entry window runs to check for appropriate information	The only appropriate information in the window should be: -only string characters in the entries -start time must be smaller than end time -the time has to be in appropriate format (no 24:00 or 12:61)
Check if it displays the error message if the information is incorrect	The program should display an error window "Please enter appropriate information" if it finds any errors listed above
Check if the sound reminder alarm works	Enter an exam with an end time 5 mins from now and listen if the program makes a beeping noise.
Check if the visual reminder alarm works	Enter an exam with an end time 5 mins from now and listen if the program displays a red exclamation point over the exam name
Check if it displays the question for adding exam to the table	Program should ask if the user want to enter new exam
Check if the entry for centre number work	Window allows entry of a number
Check if the individual end button works	The program should display a red highlighted "finished" label instead of "end" button
Check if the "end all" button works	"End all" button finishes all exams and displays the "Exam Finished" window instead of the table

## Flowcharts of functionality:

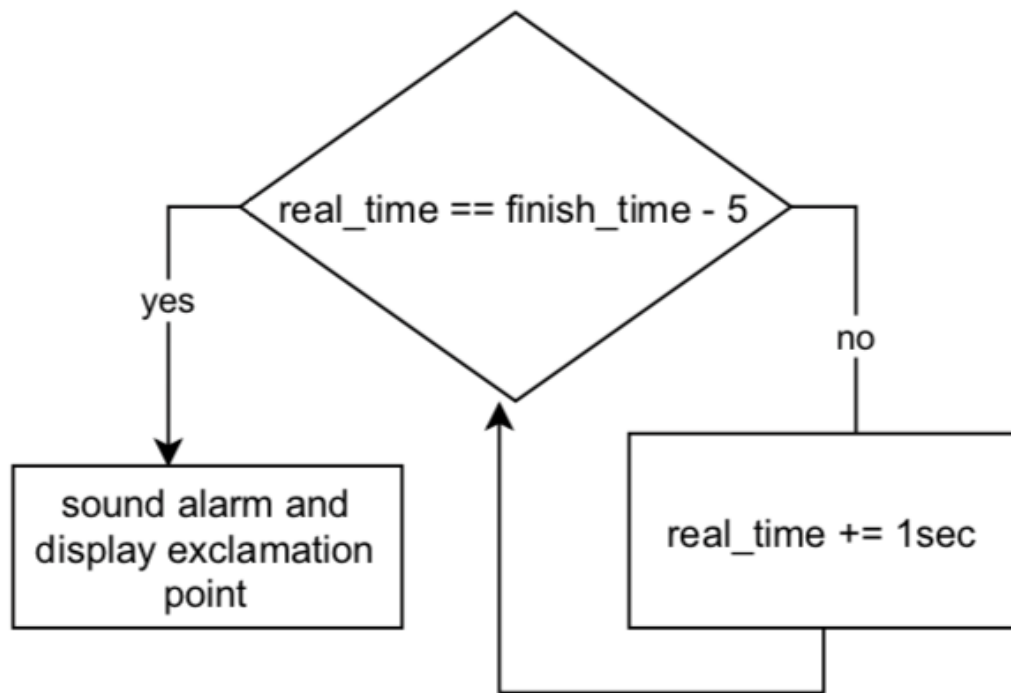
The “start” button functionality:



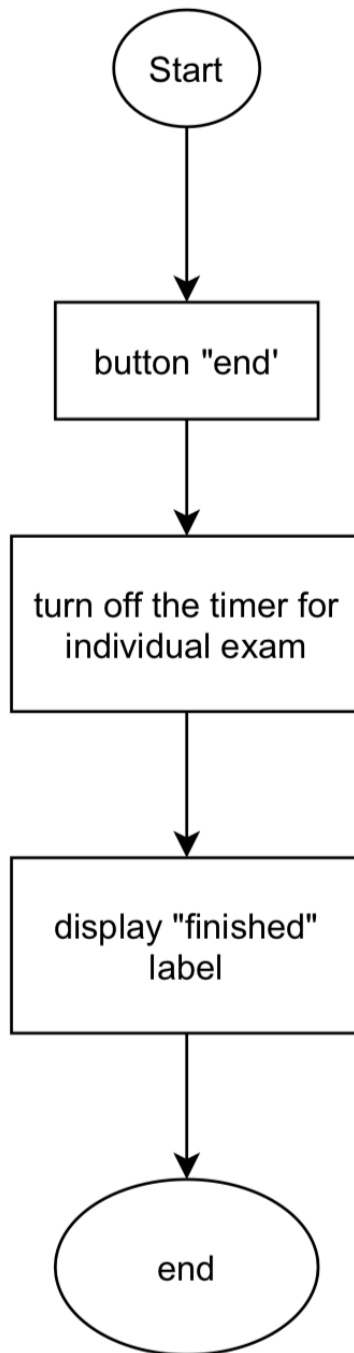
The timer functionality:

real\_time - the current time.

finish\_time - Ent time of the exam imputed by the user.



The “End” button functionality:



The “end all” button functionality:

