
Timetable Program Report

IT/SD Master Team Project

Team J

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SUMMARY:

All the required functionality has been implemented. When the program launches, the user is shown the GUI, consisting of the timetable and the list of modules. They then need to click the start editing button to enable editing of the timetable. When the start editing button is pressed, the modules and slots in the module list and timetable, which are actually buttons, are enabled — changing colour to alert the user that it is through these buttons that they are to schedule or move modules. The start editing button then changes to become the save changes button. The user can only add modules into slots which meet the restrictions set in the specification document. If a user forgets to save the changes and quits the program using the close button, the information is still saved to the ModulesOut.txt file.

ASSUMPTIONS:

- The specification indicates that the administrator would like to keep the Wednesday PM time-slot free for sport, but that this is not always possible. The decision has been taken that it is not the role of the program to facilitate this, and that the administrator can simply keep in mind this requirement.
- It is assumed that the format of the data in the ModulesOut.txt file should be the same as the ModulesIn.txt file.
- It is assumed that the administrator knows the rules for the slots into which a module may be placed, and that the aim of the program is to enable them to schedule classes quickly and easily.

TESTING:

Due to the nature of our GUI design, testing whether valid module placement was obeyed came down mainly to clicking on a module and ensuring the correct slots were highlighted. The data saved to ModulesOut.txt was tested in addition to ensure it matched with the timetable.

The program successfully performed the following tests:

- Moving an unallocated module into a vacant slot
- Moving an allocated module to a different vacant slot
- Saving all module details
- When a module is moved the program correctly displayed the change.

The program also avoids the following errors as per requirements:

- No module can be scheduled in a room whose capacity is too small.
- No two modules can be taught in the same time-slot in the same room.
- No two modules in the same subject and year can be taught in the same time-slot.

The tasks outlined in the specification document were carried out successfully. This can be evidenced through the screenshots given below along with each task listed below.

DEFICIENCIES:

While care has been taken to demonstrate to the user that they are to interact with the program by clicking directly on the modules and slots of the GUI, it is possible that a new user may not immediately know that they are to do this. In a larger project this would naturally be remedied with

a help button which opened up a walkthrough of the controls. For this project, however, such a feature was considered surplus to requirements.

Secondly, it is possible that a user may attempt to schedule a module for which there are no valid unoccupied slots. Due to the design of our GUI, they would see no slots highlighted, and may not immediately know that this was the case. They can, of course, simply click on the same module again to deselect it — or on another module to select and move it instead in order to free up some room — but it is possible that displaying an error message would be more beneficial to the user in this scenario.

SCREENSHOTS:

The tasks set out in the requirements and the screenshots showing their successful execution are provided below.

Step 1 - Start the program:

The user is shown the GUI in Figure 1, in which the modules have been correctly loaded into the timetable. The text on the modules and slots is greyed out, and the bright START EDITING button indicates that this is where the user should begin.

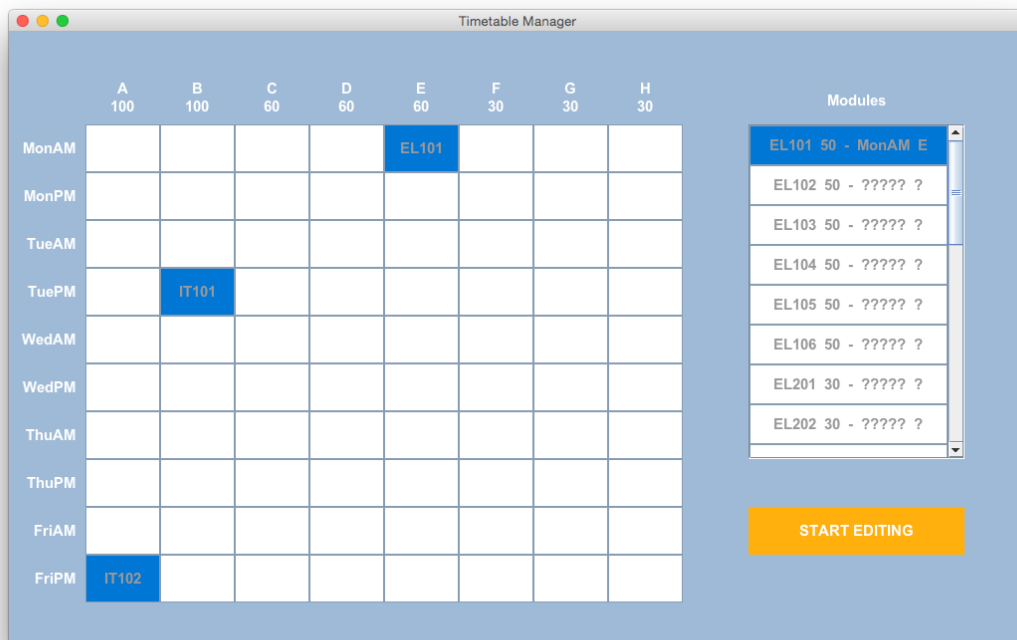


FIGURE 1 - PROGRAM LOADED

Step 2 - Move IT104 to room A in MonAM:

The user clicks the START EDITING button, and the GUI updates to look like Figure 2.1. The text on the module and slot buttons are no longer greyed out, to indicate to the user that these are buttons which are now enabled, and the START EDITING button has become the SAVE CHANGES button. The user then finds and clicks on EL104 in the scrolling module list, and sees Figure 2.2. The EL104 module button has changed colour to indicate that this module has been selected to be moved, and a subset of slots in the timetable have been highlighted (pale blue). These are the valid slots into which module EL104 can be placed. Clicking on any of these highlighted slots will move the module into that slot. Clicking on any empty, non-highlighted slot will do nothing (an error message was decided to be redundant). The user clicks on the slot for Room A MonAM, and sees Figure 2.3. Note that the timetable and module list have updated to indicate that the module has been scheduled.



FIGURE 2.1 - START EDITING PRESSED

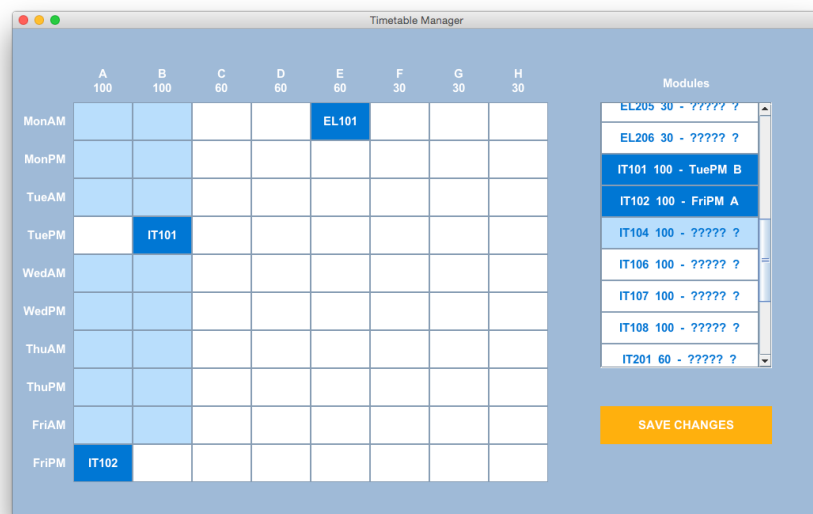


FIGURE 2.2 - IT104 PRESSED

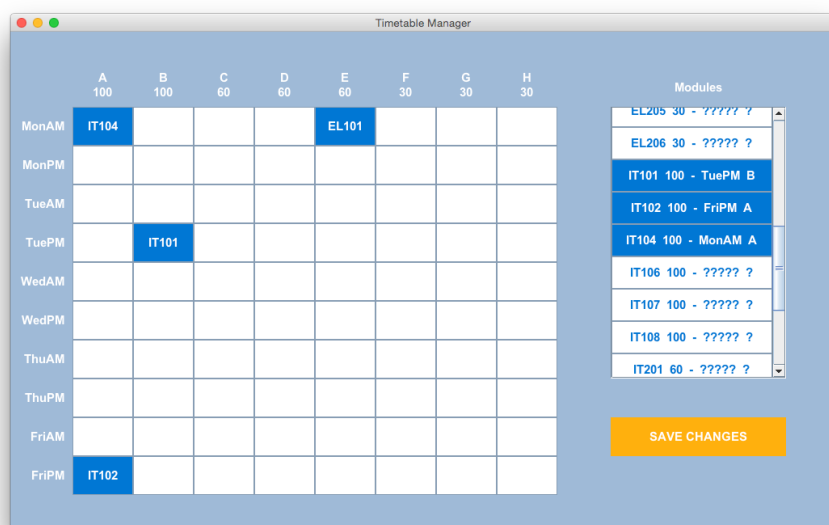


FIGURE 2.3 - IT104 SCHEDULED

Step 3 - Move IT101 to room B in ThuPM:

The user locates IT101 in the module list, or – more conveniently – simply clicks on the IT101 slot in the timetable, and sees Figure 3.1. Note that clicking a filled slot in the timetable will always select the module in that slot instead of any currently selected module. In addition, note that IT101's previous slot is highlighted to show that IT101 may be placed there, but also retains the text "IT101" so that the user can remember both which module they are moving, and where it previously was. After clicking on the new slot, they are shown Figure 3.2.



FIGURE 3.1 - CLICK ON IT101

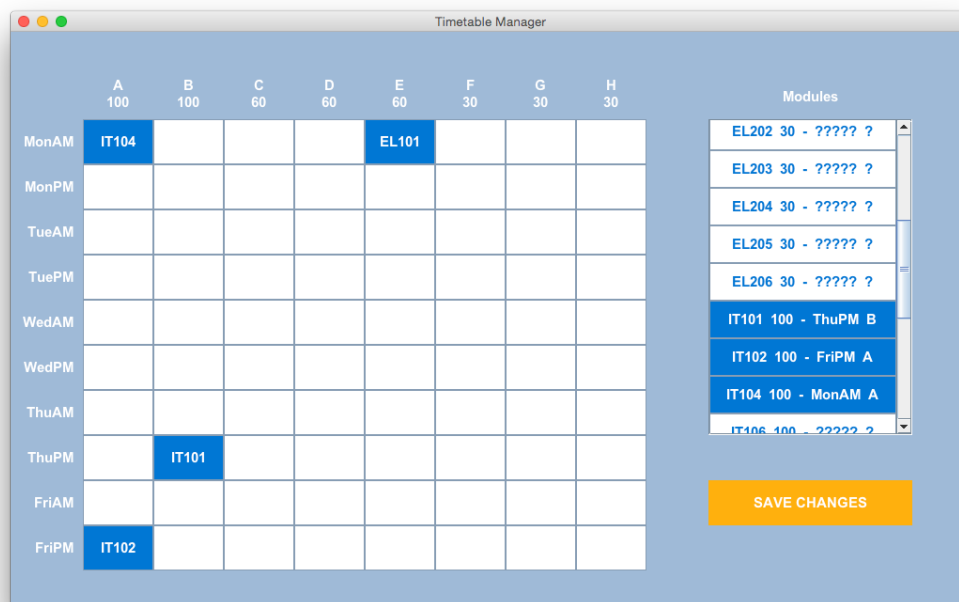


FIGURE 3.1 - MOVE TO ROOM B THUPM

Step 4 - Move EL105 to room A in FriPM:

The user locates EL105 in the module list and clicks on it; they are shown Figure 4.1. Recall that EL105 may only be moved to the highlighted slots. Clicking on the Room A FriPM slot will not move EL105 to that slot, but instead select the IT102 module which is already there and allow the user to move it out of the way. This is shown in Figure 4.2. Figure 4.3 shows the GUI after moving IT102 and putting EL105 into the desired slot.

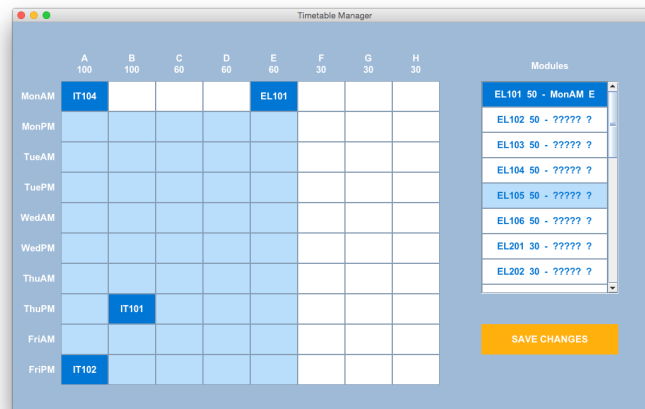


FIGURE 4.1 - SELECT EL105

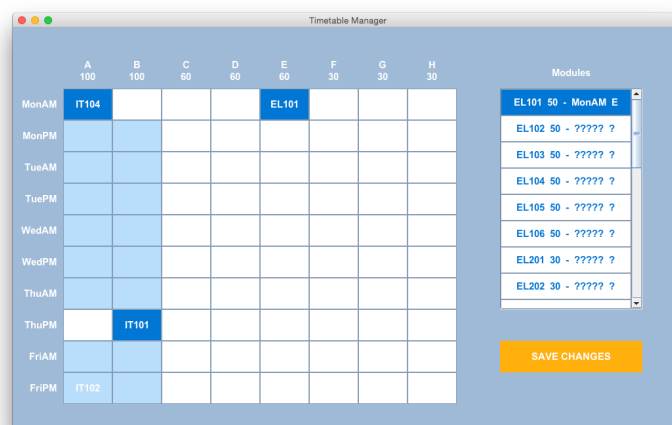


FIGURE 4.2 - CLICK ON IT102

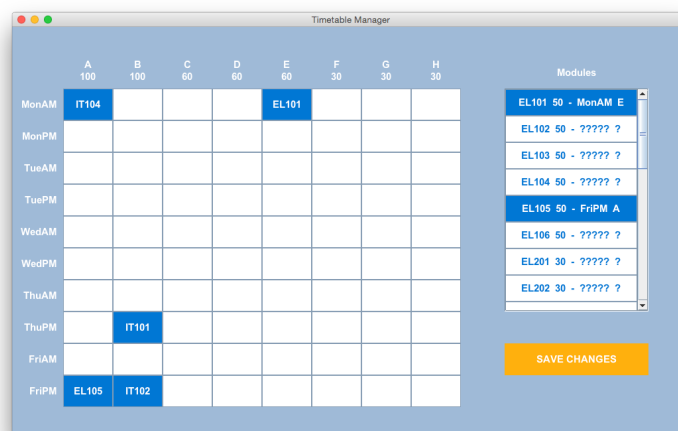


FIGURE 4.3 - AFTER SCHEDULING

Step 5 - Move IT204 to room F in WedAM:

The user locates IT204 and clicks on it. They are shown Figure 5. Since the slot for room F at WedAM is not highlighted, clicking on it will do nothing as the slot is not a valid place to put IT204 – the size of IT204 is greater than the capacity of room F. They need only click on IT204 once more to deselect it, and return the GUI to its previous state.

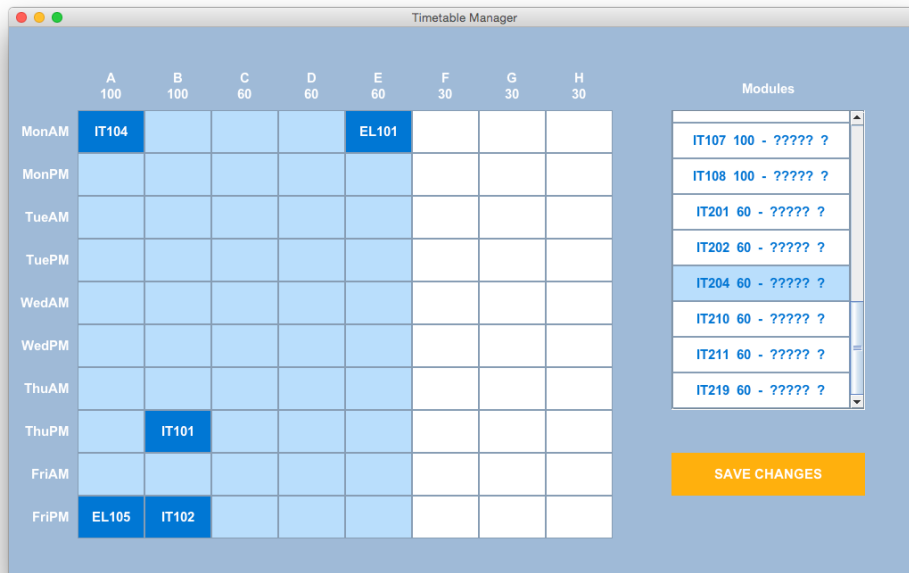


FIGURE 5 - ATTEMPT TO MOVE IT204

Step 6 - Move EL104 to room C in MonAM:

The user locates EL104 and clicks on it. They are shown Figure 6. Similarly to Step 5, the desired slot is not highlighted as it is not a valid slot for the module in question. In this case, there is already an EL1 class scheduled for MonAM.

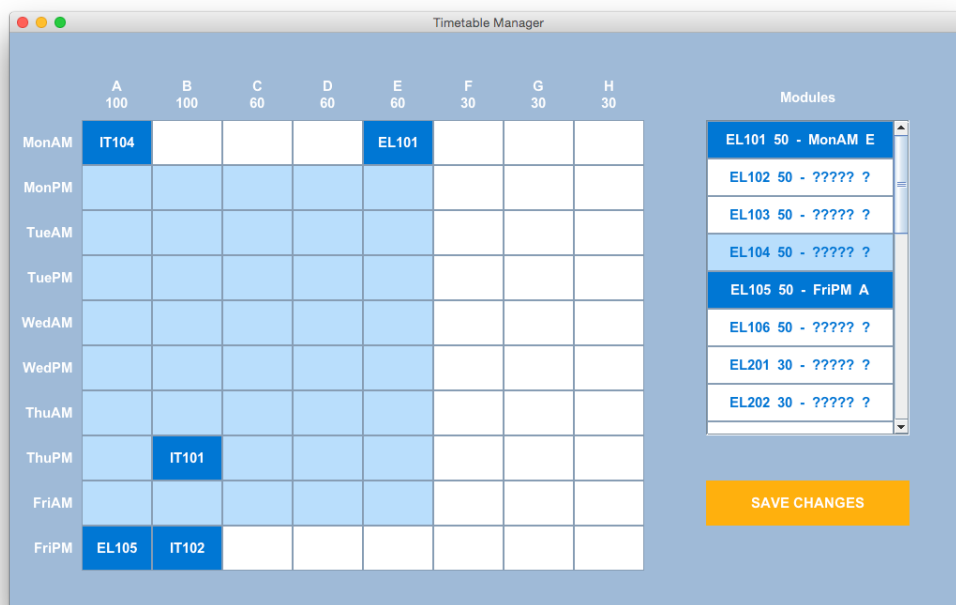


FIGURE 6 - ATTEMPT TO MOVE EL104

Step 7 - Save changes:

The user presses the SAVE CHANGES button and is shown the message in Figure 7. The SAVE CHANGES BUTTON turns back into the START EDITING button, and the module and slot buttons are disabled, as when the program opened.

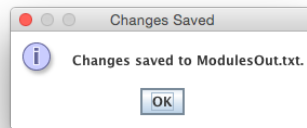


FIGURE 7 - SAVE MESSAGE

Step 8 - Move IT211 to room E in WedAM:

The user locates IT211 and schedules it in the same fashion as above. After it is scheduled they are shown Figure 8.

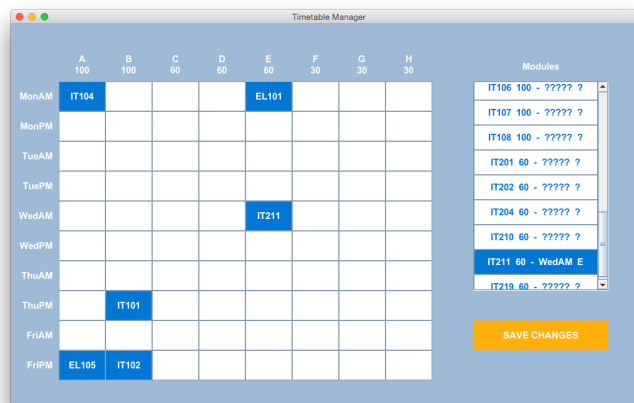


FIGURE 8 - MOVE IT211

Step 9 - Quit and view ModulesOut.txt

The user uses the close button in the corner of the GUI to quit the program. They are shown the same message as when they save changes. Upon opening the ModulesOut.txt file, they see Figure 9.

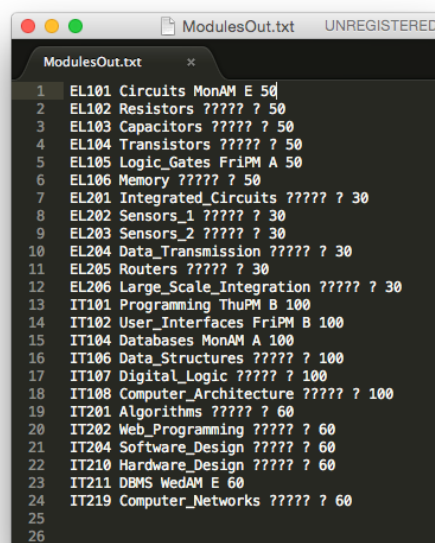


FIGURE 9 - MODULES OUT FILE