COMP 4768

Final Project

MUN Students Class Helper

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Introduction:

Project Name: MUN Students Class Helper

Standard Using Situation:

As a MUN student, usually students will have multiple courses to take during Fall and Winter semester, during each week each course will have 1-3 lectures and some of them will have 1 more lab or tutorial.

Here is an example of the computer science course 2001: students who take this course will have lecture on Tuesday 10:30am-11:45am and Thursday 10:30am-11:45am in Engineering building room 1054, and there is a lab on Monday 2:00pm-4:50pm in Computer building room 1019.

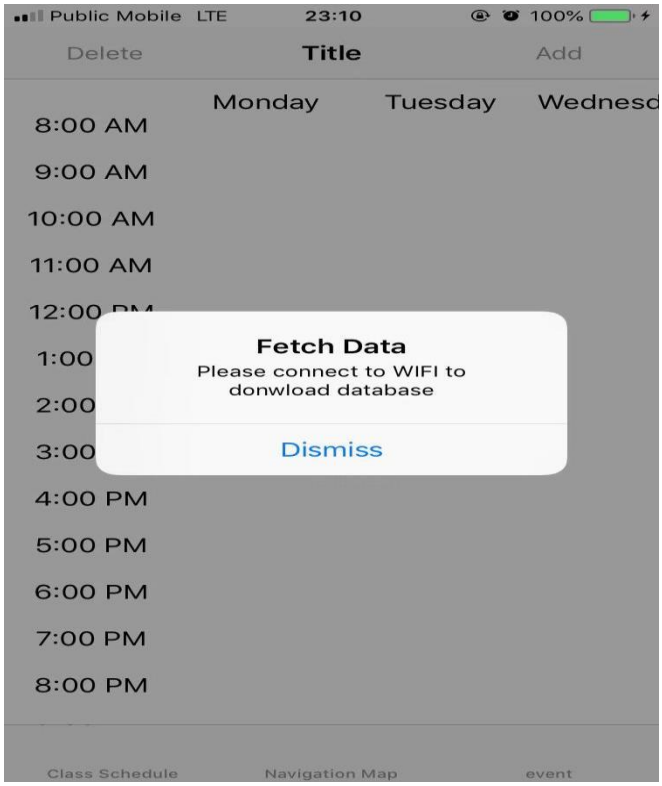
Imagine a student has multiple courses during a semester and he/she need to memorize all the time for all course's lectures and labs and also the locations for them.

Currently, if students want to check all the basic information for their courses they need to use a laptop or a phone login into the my.mun.ca website or mun self-service website to check it. But many students find both ways of doing it is not easy and efficient at all, the first reason for this is that it is not convenient for students to use laptop anytime when they need it. And the second reason it that if students choose to use their smartphones, neither the my.mun.ca website nor the self-service website is designed for smartphones, there are a lot of inconvenience such as the text and input bar is too small, in order to see the information students need to login which includes multiple steps which takes a long time, etc.

Our project MUN Students Class Helper is an IOS app which focus on try to give all MUN IOS users an easier way to find out all information for their courses. By using our app,

when users want to know any kinds of information, what they need to do is take out their smartphone, enter the course number they take for the semester(only for the first time using the app), click on the course number and all the information will be on the screen! When user click on a course he/she take, the location information will not only be a text shown on the screen, at the same time there will be a map view precisely points out the location on the map view on the screen which is much more easier to understand. There is one more additional feature from our app, users can manually attach activities such as assignments, quiz, midterm and more onto the courses they take. The app will ask user what is the activity and what's the due date for it, when there is only 24 hour before the due date the app will notify the user so he/she won't miss any of them.

Standard walkthrough for using the app:



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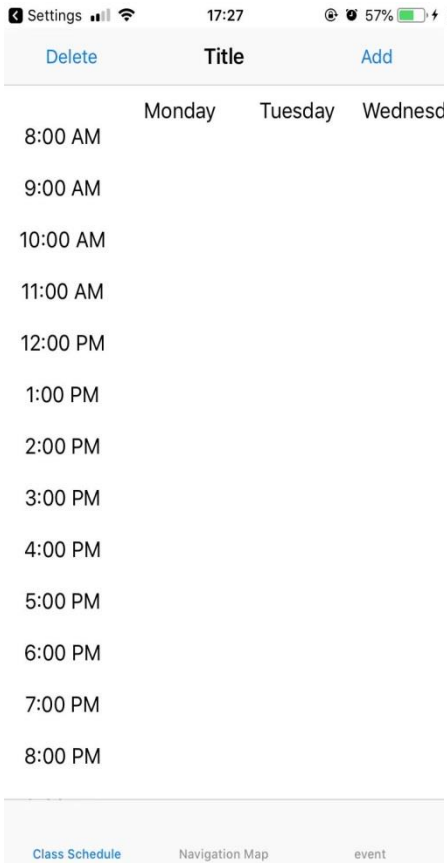
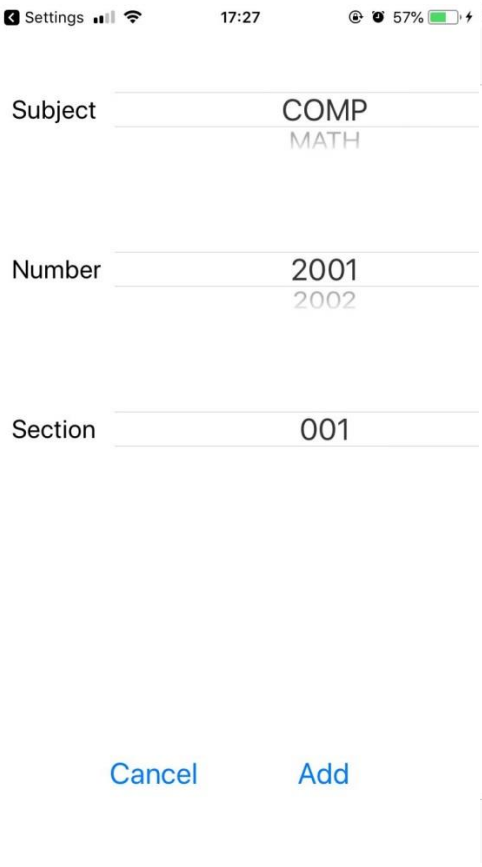
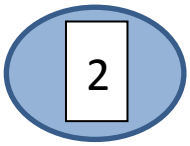
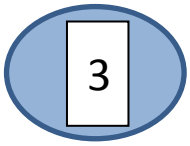
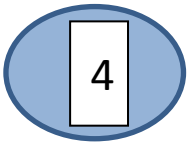
1. As shown in picture 1, for the first time when user launches the app, WFI connection is required. This feature is used to save user's phone data usage. After the first run, WIFI is not required for app to run, but the app will only update course information when WIFI is available.









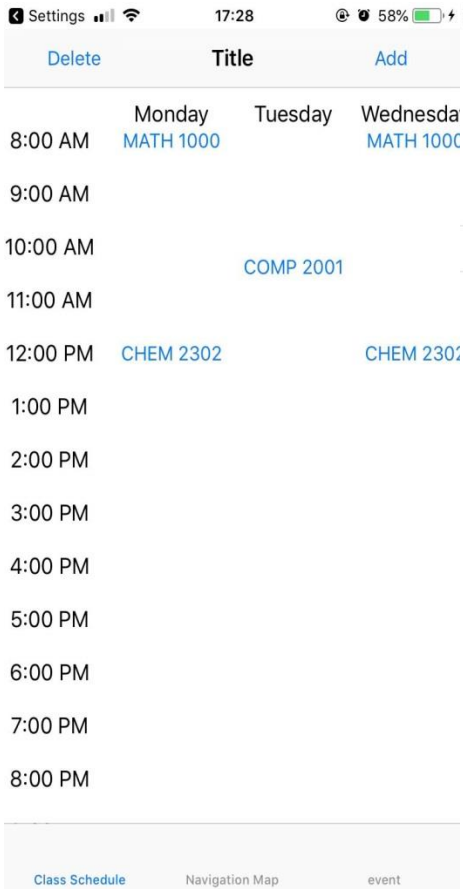


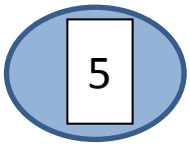
2. The 2nd picture shows the main menu when user launch the app for the first time, it is an empty class time table. User click the Add button on top right to enter next step.

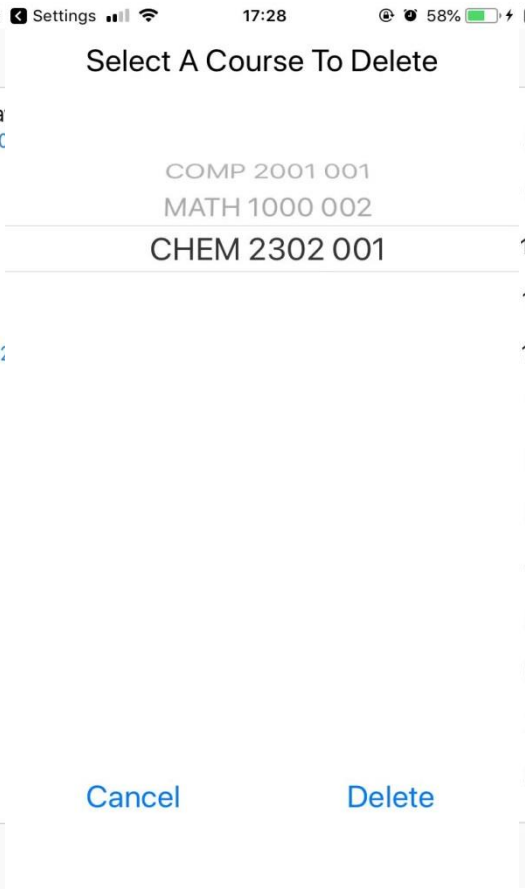
3. The 3rd picture shows now the user can add what course they take for this semester by choosing the correct information from the scroll menu, after choosing click Add to add course. (User can add 1 course at a time, after add a course the screen will go back to the class time table screen.)

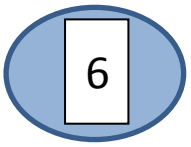
4. The 4th picture shows how the class time table will look like after user added course into it.

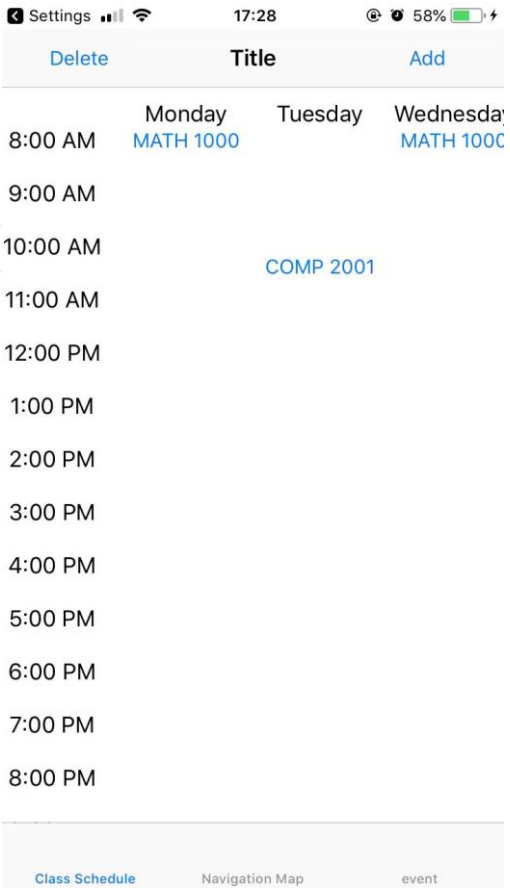
Important note: All the information about each course is saved on the app online server, the only thing user need to do is to choose the correct course to add, user don't need to care about course time etc., these information will automatically appear on the class time table.

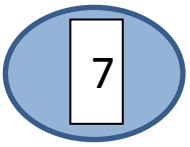








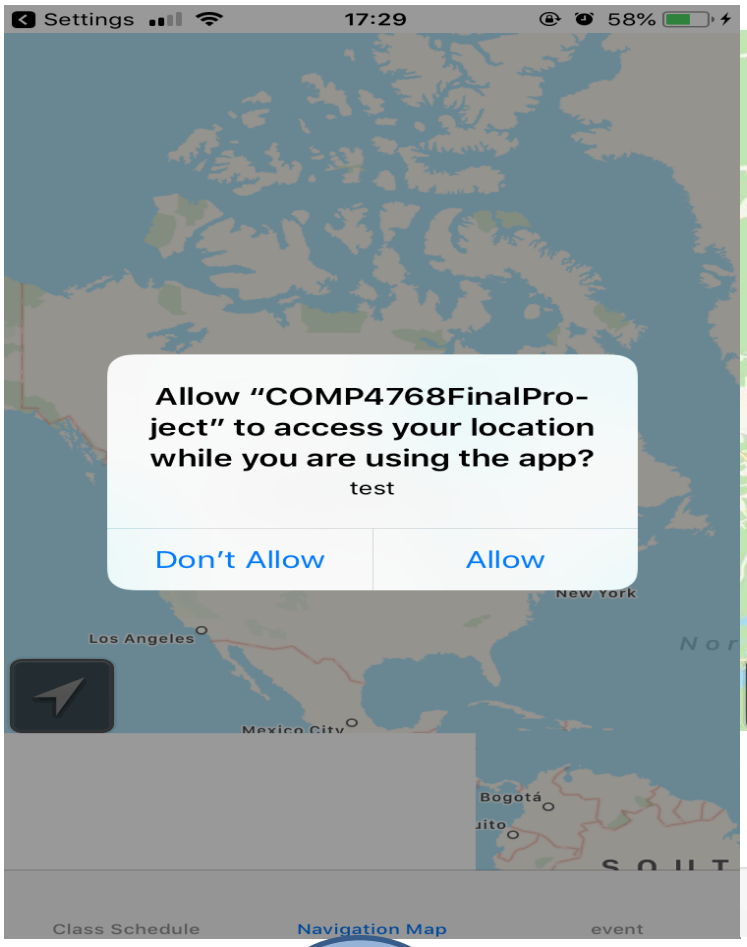




5. User are able to repeat step 2-3 to add more course as they want, after that the class time table will contain multiple courses just like shown on picture 5.

6. If user added incorrect course or dropped a course or the semester finished, they are able to delete any of the chosen course just by click the Delete button on top left shown on picture 5, then the Delete screen will pop up. In this screen user can choose any of the course they have already added in and then click the Delete button to delete the course as shown in picture 6.

7. As shown in picture 7 the user successfully deleted the course CHEM 2302.



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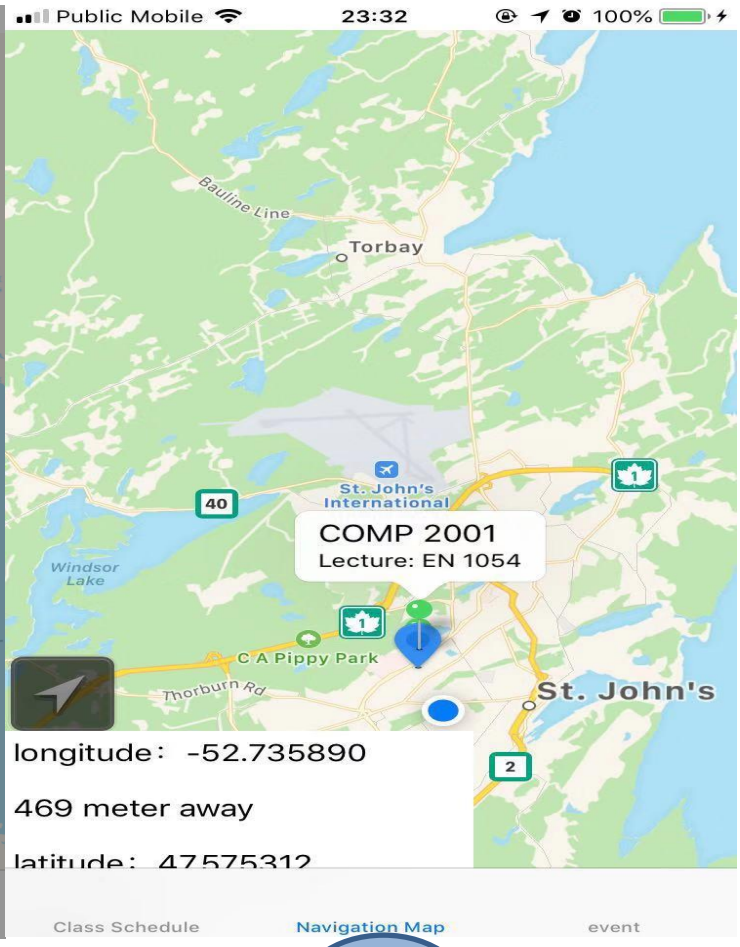

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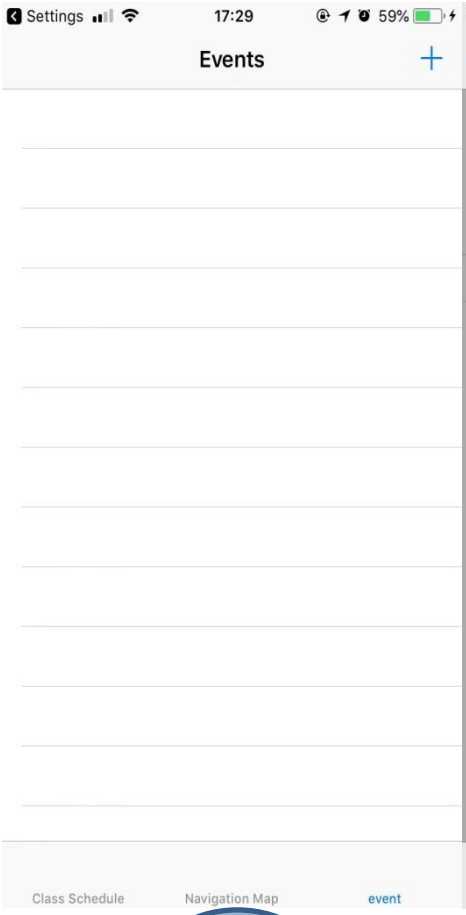
8. The map location feature allows the user to know the exact location for all the courses they take, the app may ask for the right to access your location as shown in picture 8, please choose Allow for this feature to work properly.

9. As shown in picture 9, in the map location view, the blue circle with a white ring indicates user's current location. Each green pin indicates one course location for the user, if the user has more than one courses, there will be multiple green pins shows each location. The blue bubble indicates the location the user chooses on the map, and the distance information (469 meters away) is the distance between user's current location and the blue bubble location user choose.



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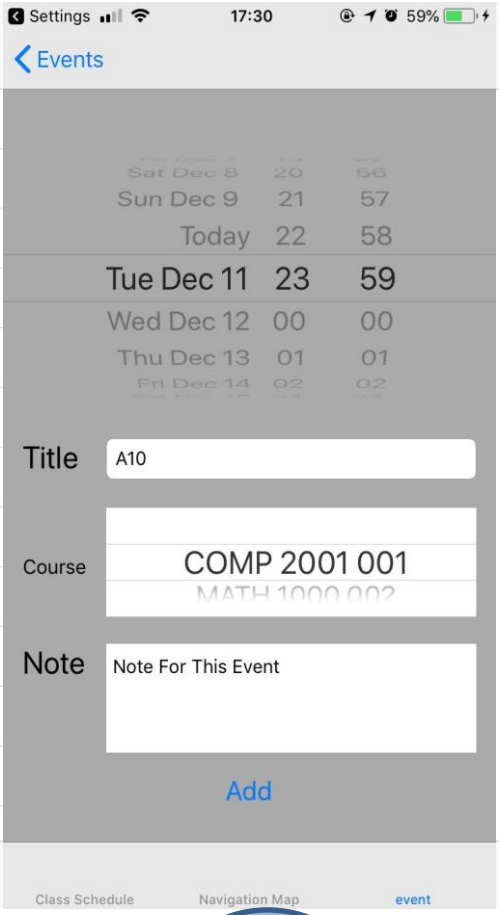

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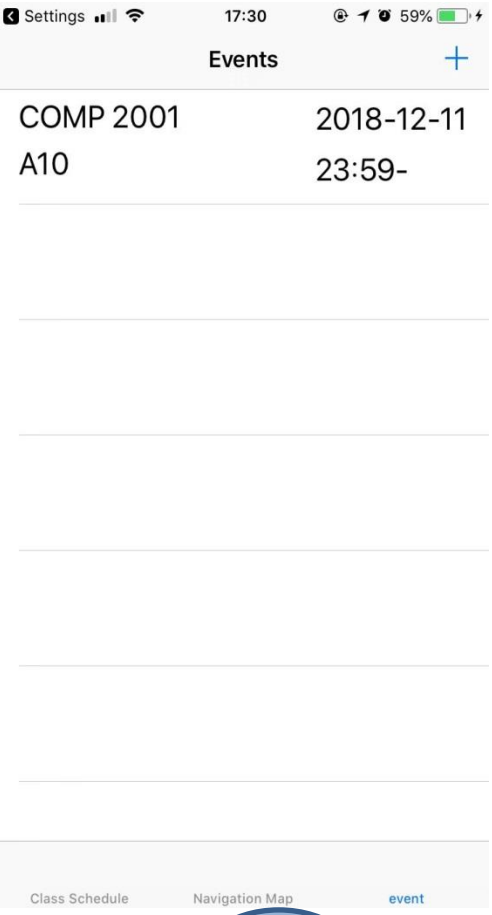

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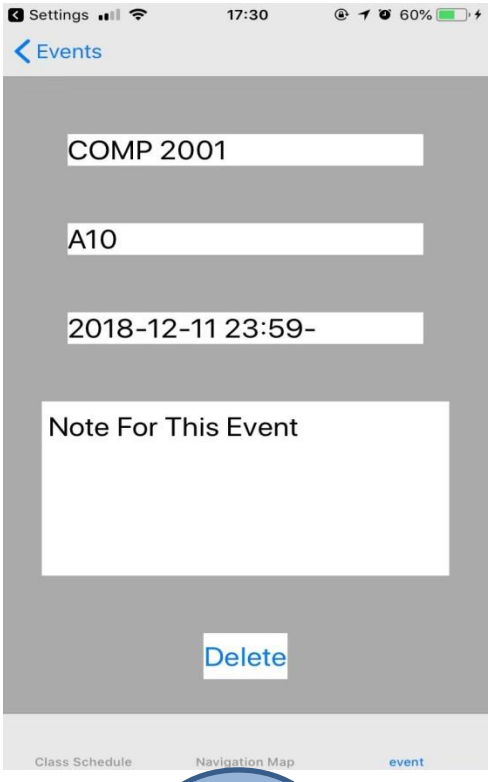

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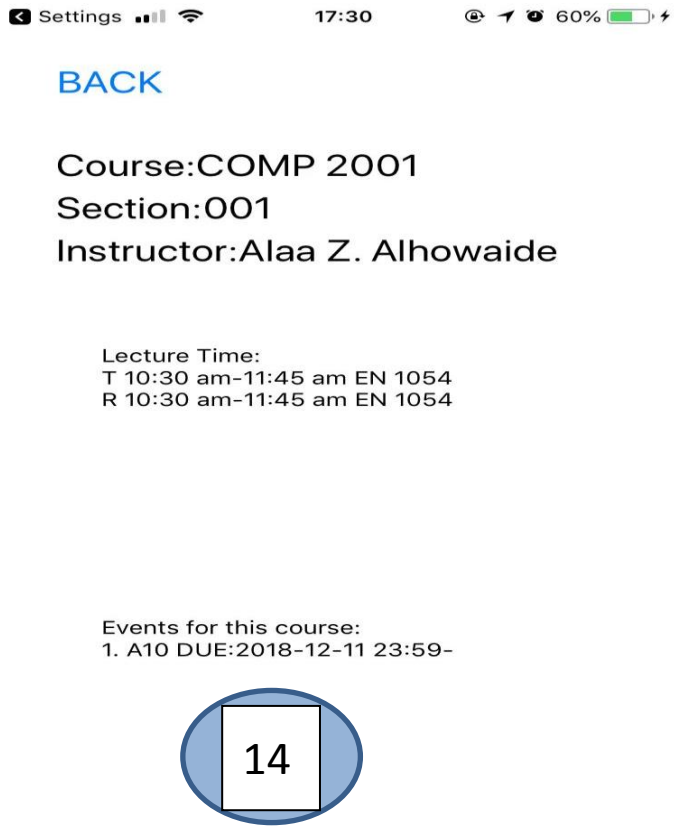
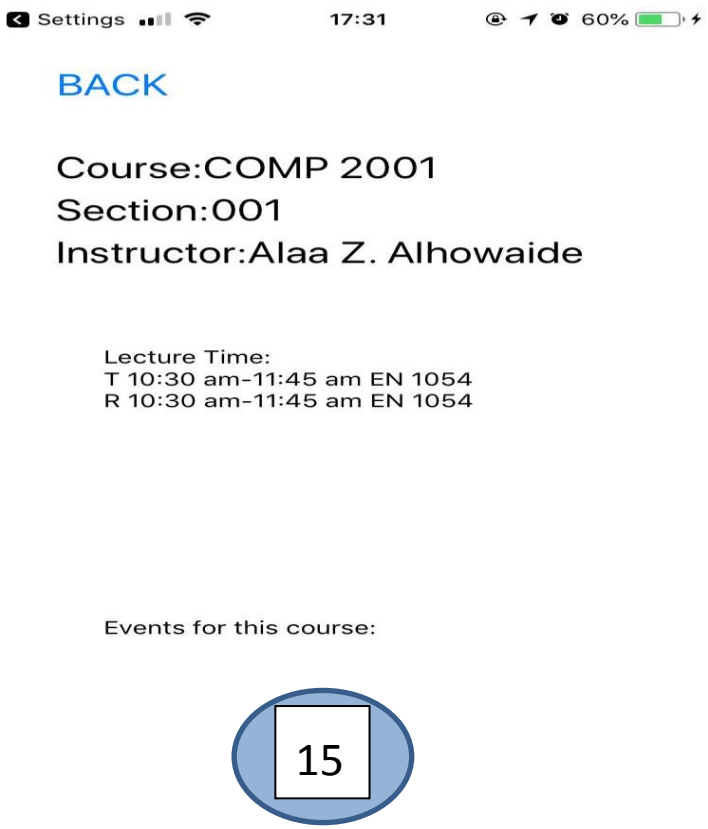
10. On the main screen, user can choose the event tab to enter the event function of the app and use it. (For the first time user enter it, it should be blank like picture 10)

11. After click the + button on top right, user now can add an event for any of the course they choose, information for the event contains Due Date, Title, Which course it belongs and any Note if necessary as shown in picture 11.

12. After added an event, the event will show on the event screen as picture 12 indicates.

13. User can also delete any event if they want (picture 13), after that the deleted event will not be shown anymore.





14. On the class time table screen, user can click on any of the course they added in, and then summary information for that course will be shown. It contains the Course number, Section number, Name of Instructor, All the lecture time for that course and all the existing events for that course with all event information. Picture 14 is an example of the summary page.

15. When user want to see all events for a course, they don't necessarily need to go to the event page, all the change of events in the event page will take affect simultaneously on the summary page, such as delete an event shown in picture 15.

Technical Challenges during the Project Implementation:

1. At the time of first loading, the app will need to connect to Wi-Fi to download course information in order to run properly. If it is the first time running and there is no Wi-Fi connection,

there will be an alert pop to encourage user to connect to Wi-Fi. In order to check to see if the user is using Wi-Fi or not, we used Reachability class provided by Apple with link:https://developer.apple.com/library/archive/samplecode/Reachability/Introduction/Intro.html

Once fetched data, the app will run offline, and it will only check for database update if and only if there is Wi-Fi connection.

The class schedule is developed using UIScrollView with button added programmatically based on the courses that the user selected.

The add course view used three picker view. in order to change the element of the second or there picker view according to previous picker view selection, UIPickerView didchange callback need to be responded to.

2. For the Demo version of our app, we need to manually enter in all the course information into the app since at that time the server for save all the information is not done, that is a lot of information to gather from mun website.

3. For the course location function, due to the limited time and limited number of people our group, we can't get the location for each of the different classrooms, so at the end we gathered all the location for each different building.

4. In order to find out the distance between 2 location.we have to convert the coordinates of annotations to CLLocation types, then get the distance between them. As they are 2D, we will just need to use the latitude and longitude properties of the 2D coordinates.

Because of the difficulties calculating the distance between 2 locations, we have used some codes from:

https://www.cnblogs.com/lihaibo-Leao/p/5144557.html