# Calendar Project

## 1 Objective

In this project, we want you to create a Java application with GUI interface. You will mainly uses Swing components for creating a GUI and then implementing the functions of the application using java programming. This project entitled as Calendar Application, and this project is one of two projects assigned for this course.

## 2 Descriptions

In this section, we show you the prototype of the application in GUI and data.

*Note: All the GUI here is use for explanation the application, student can freely design the application as you want, but make sure the GUI is easy to use and the application has all required functions.*

### 2.1 Month View Frame

This is the main window when user open the application, [Month View Frame]:

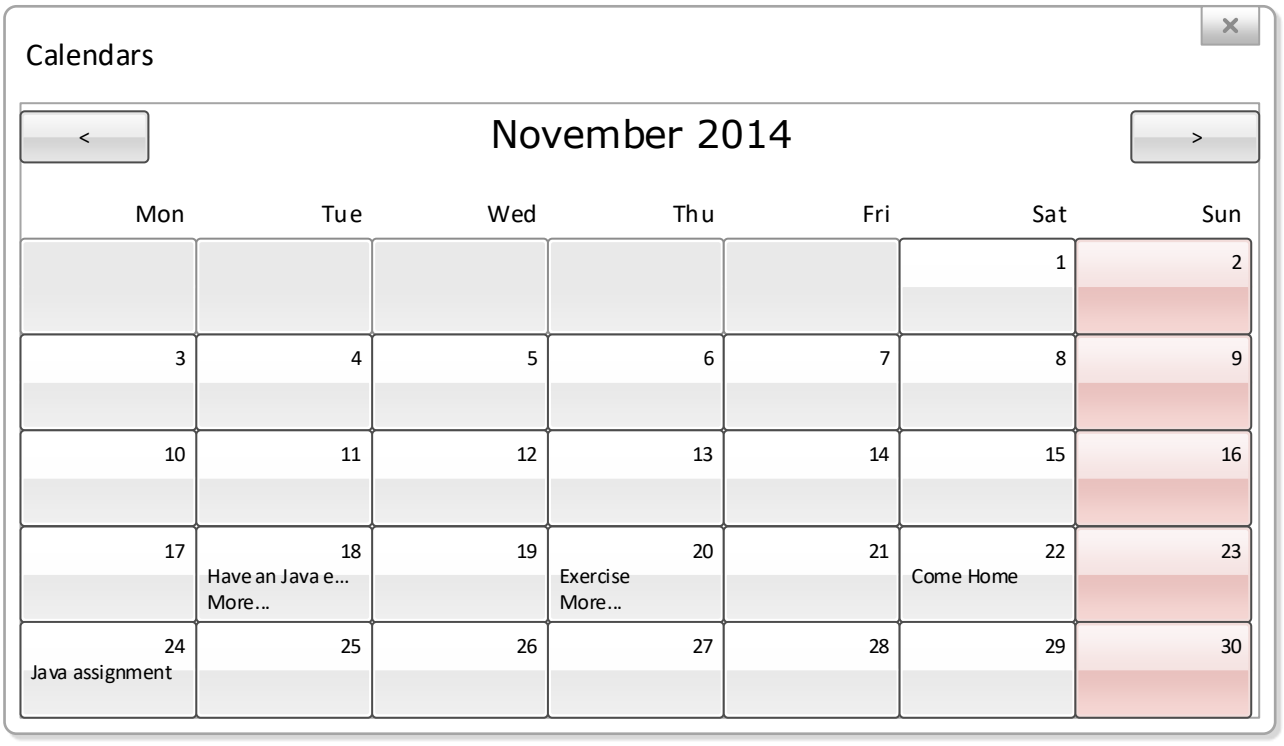



Figure 1: Reference Month View Frame

The GUI has to show these features:

- Display the month and year. When the application run, current month will show.
- Let user changes the month (can choose from a list, or jump next or previous month). When month changes, the application will update the GUI, and of course read the work in current month from file(s). (See more detail in section 2.3)

- Display all the day of the month in days of the week (Monday to Sunday), all Sundays are in different color.
- Display the First works of the day, if the day has more than 1, then display "More…"
- Let user clicks on the day to show the event(s) of that day in the next frame, [**Day View Frame**].

**Hint:**

*Student can get the day of the week and any date stuff by using **GregorianCalendar** class. For example:*

```
//Get first day of month and number of days
GregorianCalendar cal = new GregorianCalendar(year, month, 1);
int numberDayInMonth = cal.getActualMaximum(GregorianCalendar.DAY_OF_MONTH);
int firstDayOfTheWeek = cal.get(GregorianCalendar.DAY_OF_WEEK);
```

## 2.2 Day View Frame

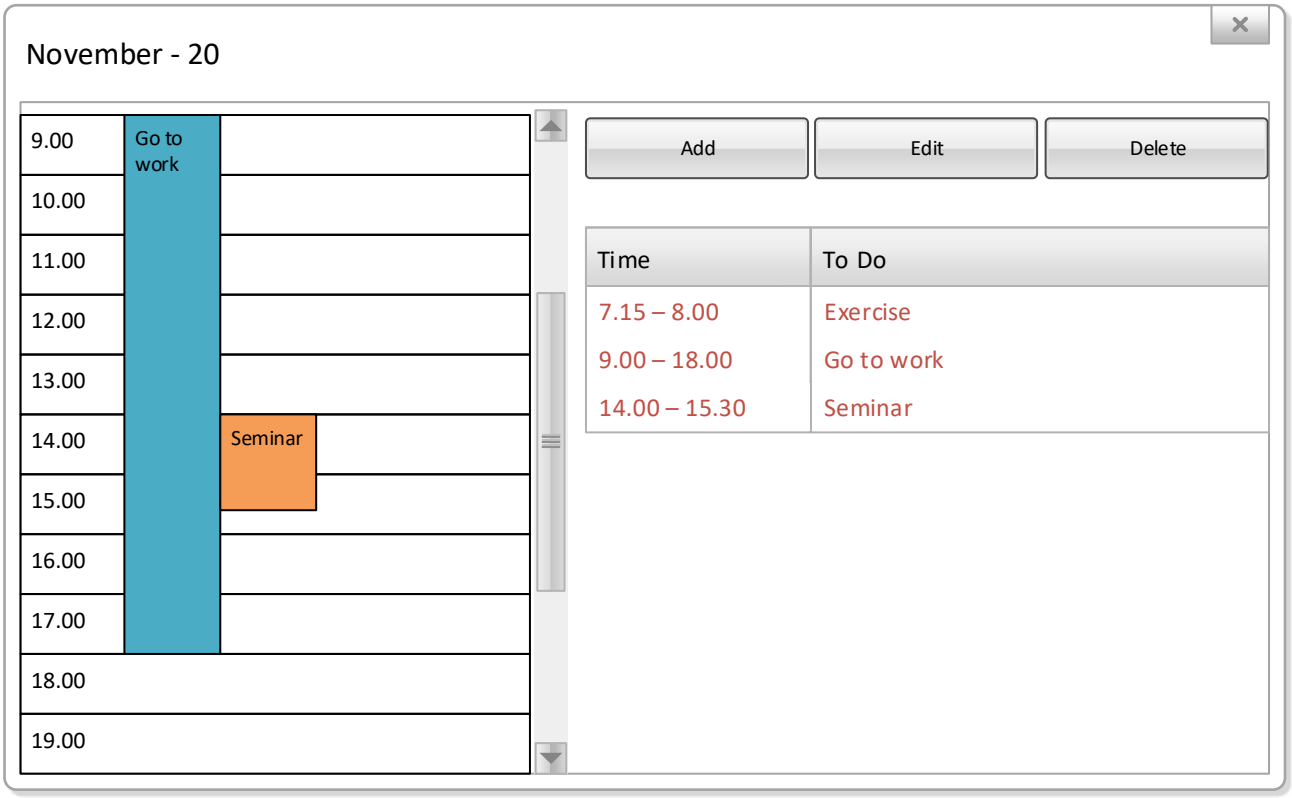
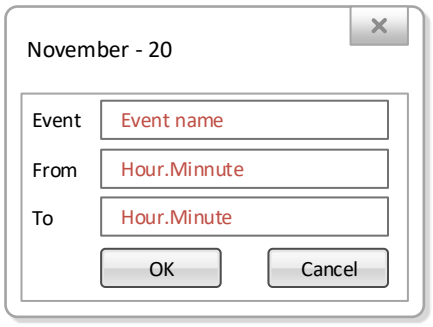



Figure 2: Reference Day View Frame

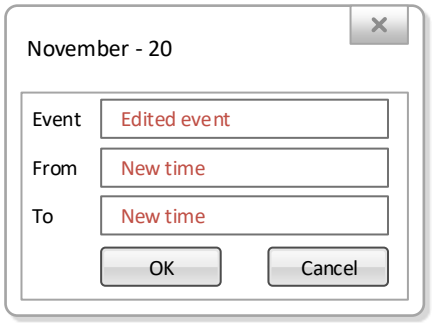
The GUI has to show these features:

- Display the day in the window title.
- Has 2 panel to display the events in a day, each panel must show the start time, and time and the description of the work.
  - Graphical panel with scrollbar
  - Text panel using table or a list
- Let user can Add new work by clicking [Add] button, and inserting all the information to the dialog below




*Note: The program must check the input to make sure the inputted times are valid and the start time must be before the end time. For example: The input from 13.00 to 8.00 is invalid.*

- Let user select the work on the list, and click [Edit] to change the description or times of the work.




*Note: The program must check the input like when user add new work.*

- Let user select the work on the list, and click [Delete] to delete the work.

***Hint:***

- Make sure you have to check all the input from user to make sure the inputs are valid. Student can use JSpinner for inputting hour and minute. For example:

```
mySpinner = new JSpinner(new SpinnerDateModel());
mySpinner.setEditor(new JSpinner.DateEditor(mySpinner, "HH:mm:ss"));
mySpinner.setValue(new Date());
```

- The work are limited to happened in 1 day only (the start time and end time are in the same day).

## 2.3 Data storage

In this application, the start time, end time and description will save and load from file(s) which place at the same folder of the application. Student can freely design how to organize the data such as: save all data in one file, save data of 1 month in 1 file, save data of 1 day in 1 file, and how to save to and read from the file such as: in normal text, in formatted text like xml, or binary mode.

# 3 Extra Credit

In this assignment you can earn extra credit (20%) by

- Designing friendlier user interface such as
  - Using nice design and “Look and Feel”
  - Make the GUI fit with all size of frame.
- Adding more functions to the program such as showing an alert message when an even start time comes.

*Note: Any extra function, you want to add, is welcomed but should describe it (what is it and how can I check it) when you submit your project in README.txt file or README.doc file, if need.*

# 4 Project Submission

Here are the details for how to submit your project:

1. Create an executable JAR file named **calendar.jar** that contains your runnable application.
2. Create a new directory using your student IDs. Example: **20150001_20150002**
3. Put the jar file into the directory, and also your Eclipse project folder.
4. Put also **README.txt** file to the directory. This file should contain student name (in English), the version of Java you used as well as any special info we might need to know about your program (For example: let us know if you did some extra things).
5. ZIP this directory and submit it via e-class.

**Notes:**

- All the **comments** on the code and the names of variables, classes **must be in English**.
- Please take care to **remove any platform dependencies**, such as hardcoded path names or dependence on a particular look-and-feel that may not exist on all platforms. Also, if you use any images in your application, please make sure that you included these images in your JAR file and that your code will refer to them and load them properly when they're in this JAR file (see this page for some details on how to include and load images from within a JAR file).
- Please test your program on other by running the jar file directly, not only run on eclipse, before you submit.

# 5 Grade

Grading for this assignment will follow this breakdown:

- ✓ 50% functionality (Are all functions run correctly?)
- ✓ 30% architectural design, coding style (Are your classes, methods, fields are reasonable?)
- ✓ 20% commenting (Can I understands your app just by reading your code?)
- ✓ 20% extra credit (Is your application interesting to use?)

Please let the LA or the Professor know if you have any questions or something you don't understand by visiting by asking question on e-class, after lab class or email.

If you have questions about the project requirement, I suggest you post it in public so other student can see them too but if you have a question about your project implementation, then post the question in private.

Good luck!