Unit:
Analysis, Design and Implementation

Assignment title:
Event Planner

June 2017

Important notes

- Please refer to the Assignment Presentation Requirements for advice on how to set out your assignment. These can be found on the NCC Education *Campus*. Click on Policies and Advice in the left-hand menu and look under the Advice section.
- You must read the NCC Education documents 'What is Academic Misconduct? Guidance for Candidates' and 'Avoiding Plagiarism and Collusion: Guidance for Candidates' and ensure that you acknowledge all the sources that you use in your work. These documents are available on *Campus*. Click on Policies and Advice in the left-hand menu and look under the Policies section.
- You **must** complete the **'Statement and Confirmation of Own Work'**. The form is available on *Campus*. Click on Policies and Advice in the left-hand menu and look under the Policies section.
- Please make a note of the recommended word count. You could lose marks if you write 10% more or less than this.
- You must submit a paper copy and digital copy (on disk or similarly acceptable medium). Media containing viruses, or media that cannot be run directly, will result in a fail grade being awarded for this assessment.
- All electronic media will be checked for plagiarism.

Scenario

Sometimes, it can be difficult to arrange meetings with friends and family. Many people have very busy schedules.

As part of a local government initiative, you have been asked to put together an event planner tool that allows people to organise their time and keep track of their social obligations. The initiative, called 'Social Time', aims to allow its registered users to create events, identify potential attendees, and then suggest dates and times that work for everyone involved. Each registered user of this system will be required to enter the following information:

1. Name
2. Email address
3. Location
4. Available time slots (defined in blocks of an hour, recurring weekly)
5. Unavailable time slots (defined in blocks of an hour, recurring weekly)

Every registered user will be able to create an event of their own design, including the following details:

1. Name
2. Location
3. Description
4. Duration
5. Invited attendees (of which there may be many)
6. Minimum number of attendees
7. Minimum threshold for invitation slots (as a percentage)

When an attendee is invited to an event, it should show up as an invitation in their profile. The attendee can then express their interest in attending the event, or dismiss it.

The application will provide a list of suitable dates and times when either the minimum number of attendees have indicated their desire to attend or all invitations have had a response. At that point, it will compare the available time-slots of all accepted invitations and then provide a list of those that are appropriate. Timeslots are considered to be viable under the following circumstances:

- The slot is available for at least the minimum threshold percentage of attendees;
- The slot is **not** unavailable for at least the minimum threshold percentage of attendees.

These time slots will be presented to all individuals that have expressed their interest in the event. All users can then vote for which one suits them best, allowing their own particular flexibility to over-ride the algorithm of the application. Once everyone has voted, the most popular slot is picked and the time and date of the event is set. Users may be invited to many events at the same time, and be at different points in the process for each event. Your application will need to take this into account.

Your application then needs to provide the following functionality:

- Allows for users to register themselves and edit their profile;
- Allows for new events to be added and edited;
- Allows users to see the list of events to which they have been invited;
- Permit users to accept or reject an invite;
- Calculate which time slots are feasible for the accepted invites;
- Generate a candidate list of time slots based on user responses;
- Present the short-list of time slots to all potential attendees;
- Permit users to vote on which time slot for an event works best for them;
- Finalise the event details when all votes have been tallied.

Your solution will consist of a class diagram, a use-case diagram, and an activity diagram for the process of generating a list of candidate time slots based on user availability. You should also submit the completed program code in Java.

Task 1 – Candidate Class List and diagrams (26 Marks)

The candidate class list should incorporate justifications and discussion as to why each class was selected for inclusion, and how its relationship to other classes was derived. The class diagram should show attributes, operations, scope and relationship of classes to each other.

Task 2 – Activity Diagram (25 Marks)

The activity diagram should incorporate the classes involved in a user generating a list of candidate time slots based on user availability. Here, neatness of the flow of logic is important.

Task 3 – Use Case Diagrams (8 Marks)

The use case diagram should incorporate each of the user activities indicated in the brief.

Task 4 – Code Architecture (15 Marks)

This involves a code architecture that shows an appropriate level of coupling and cohesion, along with the necessary amount of inheritance and encapsulation to express the system. This is assessed in terms of the design elements of the system as shown in the documentation above rather than the implementation.

Task 5 – System Implementations (26 Marks)

This is for implementing the system as described and providing the completed Java code.

Submission requirements

- Your program must be submitted as a zip file of the full project.
    - Whatever IDE you use, it should be possible to open and run the project directly from the extracted archive.
- Diagrams and materials associated with the tasks above should be presented in a word-processed document.
- All references and citations must use the Harvard Style.

Candidate checklist

Please use the following checklist to ensure that your work is ready for submission.

Have you read the NCC Education documents 'What is Academic Misconduct? Guidance for Candidates' and 'Avoiding Plagiarism and Collusion: Guidance for Candidates' and ensured that you have acknowledged all the sources that you have used in your work?	❑
Have you completed the 'Statement and Confirmation of Own Work' form and attached it to your assignment? **You must do this.**	❑
Have you ensured that your work has not gone over or under the recommended word count by more than 10%?	❑
Have you ensured that your work does not contain viruses and can be run directly?	❑