

CS 3415 Team Project

Fall, 2022

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General information:

A team project is an important part of the Software Engineering course. Students in this class will be partitioned into teams. Each team should complete the project in this semester following the project time frame. Using theories, principles and methods discussed in classes, each team should deliver a complete, correct, well-structured, and robust project by Thursday November 25th. During the semester, each team also needs to give presentations of the project in the class (time TBA). Because this project is a team work and it will last for one term, every member should keep working on it and learn how to collaborate with your teammates.

Team activities

We will use the evolutionary process model (incremental model) for the team project. The following activities are not sequential activities of the team. We will discuss team project weekly activities in classes.

- Outline of the project.
- Project requirements development which includes
 - domain analysis;
 - requirements gathering;
 - requirement analysis;
 - requirement reviewing;
 - requirement documents typing; etc.

The techniques discussed in the class should be used.

- Project designing which includes
 - architectural design;
 - modelling design;
 - user-centred design and possible pattern usage;
 - modelling inter actions and behaviour;
 - user interface design;
 - detailed design documents typing; etc.

Theories discussed in classes and UML techniques should be comprehensively used during the whole designing procedure.

- Implementation and testing: Since we will use the evolutionary model, the implemented software is not the final version. Each team can consider to implement several versions of the system. when design the project tests should also be considered.
- Weekly team meetings. Each team should set up a meeting day every week. You can use the course lab time, but team members also can set up other time. Each team should have a team leader. The team can elect a team leader or let each member of the team be a leader in turns. Each team meeting should have meeting records. Communications between team members regarding the team project can also be included to the record.
- Individual records. Each student should record her/his work or activities for the team project for each week. This record can be used to determine the distribution of the marks of the team project.

All the documents should be nicely arranged and assembled with all the attachments as appendix. If you have any questions or problems, the instructor is ready to help. However, the project is a timely issues. If some step was not finished on time, then whole project will be difficult to complete.

Effective human collaboration is always a challenge. The team project gives you a chance to learn and practise interpersonal communications, leadership, collaboration, organization, and help each others.

Hand in:

Each team should hand in the followings before the deadline:

- Project report which is proved by all the team members.
- All the documents related to the project.
- Weekly team meeting records and personal records.
- Any other materials which show the team's work.
- Percentage of credit for each member of the team.

Each student should hand in a report including:

- A record of your role and activities in the team project.
- A summery of your team project in your opinion: best part of the project, insufficient or inadequate of the project, etc.
- Any other comments about the project.

Grade:

The highest mark for a project is 25 multiply the number of members of the project team. The grade a student obtained is his/her credit percentage multiply his/her team's project mark (but the highest grade will be no more than 25). The individual report will be counted as well.

Proposed topic:

The following is a brief description of proposed projects. Details will be followed. In fact, requirement analysis of a project is one of the important topics in this course. A team needs to find out the requirements of the project in the following weeks. Note that the description of the projects is purposely simple and incomplete.

Each team should choose one of the following projects:

Project 1: *Water front resort reservation system:*

A water front resort needs an on-line reservation system. This project is developing a reservation system which will need to connect to a resort management system. Therefore the system should have APIs for the management system.

- The Water Front resort has 100 rooms and 20 suites. 30 of the rooms and 10 suites are faced to Lake Simcore. A typical room contains 2 queen size beds or 1 king size bed.
- The resort has one cafeteria and one restaurant. The resort also owns a section of beach and two sand volleyball courts.
- There are different reservation packages with some discount. These packages will be changed from time to time. For examples, some package includes breakfast, some package just for special holidays, etc.
- The resort wants the reservation system used on-line so that people may reserve rooms or tables of the restaurant anywhere if they can access internet.
- The manager wants to see the detailed information of the status of the resort while some of the information should not show to the customers.
- The resort plans to build a swim pool and exercise rooms in the future.
- A membership plan is also under consideration.
- The system should be easy to use, and the security and privacy are also important concerns.

Project 2: *Telemedicine system for remote residents:*

There are many remote residents around Northern Ontario, who will be difficult to get medication from Regional Hospitals. The hospital needs a system to take care of these remote residents.

- A remote resident can register this system and upload her/his health information.
- The system can automatically upload real time health information obtained from sensors or other medical devices when the remote resident uses this system.
- When the remote resident has health problems, the system can suggest specific doctors to take care of them.
- By permission, a doctor can access residents' health information.
- Hospitals, doctors and nurses can register this system as medication providers.
- The doctor can give instructions about health care to the remote resident through the system.
- In case the remote resident needs emergency care, the system alarm the hospital immediately.
- Older residents have priorities to obtain this system's services.
- The system will keep the privacy and security for all of the medical information.

Project 3: *Carpool reservation system:*

This system is used for carpool between Barrie and Orillia (but should be easily changed to any two places). Some security issues need to consider.

- People can register to this system using web or app. Some user photo ID is required for the registration.
- Carpool provider needs to provide certain credit and insurance information.
- Carpool provider can post the schedule time and limitation of number of people for the carpool. The system will update the number of people limitation after some users make reservations.
- There are some fixed carpool lots can be used. Or the users can set up the carpool parking places.
- There are some price range for carpool, and the carpool provider and user can negotiate for the price within that range.
- The system provide tickets to the carpool users, which should be verified when the user uses the carpool.
- The cancellation of a carpool for certain time limitation (for example, one day or 12 hours before departure) will be free. Otherwise, there will be some fee for the cancellation.
- Money payment will using credit cards or debit cards through the system. So the carpool user will pay to the system and the system will pay to the carpool provider. There might be a fee for the system.

CS 3415 Team Project schedule

Week	Activity
1	Project description
2	Requirement analysis
3	Requirement document
4	System design for first version
5	System design Document
6	Implementation for the first version
7	Testing the first version of the system
8	Complete the first version of the system
9	Requirement analysis for incremental
10	Design and implementation second version
11	Project report document