



University  
of Windsor

School of Computer Science  
<https://cs.uwindsor.ca>

## Master of Applied Computing

COMP-8117

Advanced Software Engineering Topics

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Office Hours : Thursday & Friday (9.00am – 11.00pm EST)

### Project Outlines

Section 1 (Mon), Section 2 (Tue), Section 3 (Wed)

Schedule (incl. Lab Hours) : 8.30am – 11.20am (EST)

Location : Online (Blackboard & Teams)

GA Consulting Hours : *Please see the course website for details*

<https://blackboard.uwindsor.ca>

### Project Need

In this project, the customer would like to create an innovative social application in which people can share literary work (book, comics, etc.), rate them, and post a comment on their profile. They can classify their book interests by categories. According to these settings, the application shows the books that a user and its friends have in common. The goal for the client is to measure how a book interest is spread through the network.

As an example, if the client reads a book entitled « Book A », he can add it to its own library, rate the book and let a comment. When a friend F1 looks at the profile of the client, he will see that the client read the book. At his turn, he may flag the book on its own profile, and let a comment.

Note: the customer doesn't want a book recommendation system.

### Project Description

The 10-week project involves a team of 5 students (40 students per section = 8 teams) working together using an iterative project development lifecycle to design, develop, test and produce a medium size software project.

The choice of the methodology is left to the discretion of the teams among the following iterative methodologies : SCRUM, Water SCRUM Fall, UP and XP. Teams may work on different aspects of the product. Students are encouraged to present their own ideas for software products (the only requirement is that the product fulfills initial client needs). Some examples include: web-based applications, mobile applications, general software extensions, etc. There is no mandatory

technology but students are highly encouraged to use modern languages (C++20, C#, etc.), frameworks (Node.js, Angular, React, etc.) and tools.

Iteration length must be set at the beginning of the project. Each iteration gives rise to delivered intermediate artifacts.

Minimal iteration length : 1 week.

Suggested iteration length : 2 weeks.

### Mandatory Milestones and Deadline

Project planning must include at least 5 intermediate milestones corresponding to 5 deliveries, + 1 deadline corresponding to the final release :

- Project proposal – Jan. 25 (Sec 1) to Jan. 27 (Sec 3)
- Milestone 1 – Feb. 8 to Feb. 10
- Milestone 2 – Mar. 1 to Mar. 3
- Milestone 3 – Mar. 15 to Mar. 17
- Milestone 4 – Mar. 29 to Mar. 31
- Release Deadline – Apr. 5 to Apr. 7

*Note : Feb. 13 to Feb. 21 is reading week. No work on the project is expected.*

### Project Proposal

Each team must submit the project directory and customer a project proposal. This proposal must contain :

- A brief analysis of needs, and features (kind of application, fonctionnalités, technical constraints, languages, framework, target users)
- A prototype or a mockup (Video, Picture, Draw...)
- A brief market and cost analysis describing the existing related applications on the market, and the cost of the development of this new product (cost of one engineer per year = 100 000 CAD)
- A provisional planning of the development including the 4 mandatory milestones
- A quality assurance plan describing the set of standards, the regulations, procedures, tools, description of the development lifecycle, review procedures, testing procedures, communication procedures, deployment procedures. The QAP will present also the team, the tools which will be used.

### Final Report

The final release is a technical report containing :

- All the produced artifacts (Intermediate artifacts ; Product backlog, Sprint backlog, etc.) ;

- Documentation : Initial and effective planning (Gantt Diagrams), Requirement analysis, Software design & architecture, Software Quality Assurance Plan, Source Code, Code Documentation ;
- Final Release (Deployed or Packaged executable) ;
- An individual report explaining the pros and cons of the chosen methodology, and an analysis of the gap between the initial expectation and the final release (reasons of success/failures, possible improvements, etc.).

Submission and deployment modalities will be specified during the term.

#### Group Presentation

Teams will present their project and work during the two last weeks of the term. Presentations will last 20 minutes followed by 10 minutes of questions. Group presentation is **mandatory**. Students are encouraged to attend presentations from other teams.

#### Other requirements & advices

- Teams are expected to demonstrate that their proposed project is *innovative* through a brief market research & study.
- Teams must choose appropriate technologies according to their proposed project. This choice must be justified and documented.
- Teams must use a version control system with proper continuous integration system, software testing and verification methods deployed;
- Intermediate artifacts are delivered using Files tab in MS Teams.

At any stage of the development, teams can require a meeting with the project director/client (instructor or GA/TA) if needed. Teams are highly encouraged to request meetings at any moment (through MS Teams).