



COMPUTER | SCIENCE

COS 301 Software Engineering

Capstone Project: Demo 1 Instruction

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1 Introduction

The First Capstone Demo is Friday, 03 May 2019. The Demo Bookings will open at 09h00 on Tuesday, 23rd April and will close at 23h30 on Thursday 25th April 2019. Be aware that for your Capstone project, you have 3-clients, the primary client is the project owner, then, the CS staff, and the COS 301 lecturers. Each of these clients requirements must be addressed as you continue to the project day. For the first half of your capstone project, your focus client is the primary client (i.e., the project owner). You are required to email your client, cc all lecturers, to make a meeting appointment to clarify your project requirements specifications before Friday, the 26th of April, 2019. Ensure you have joined the COS 301 SE 2019 GitHub organisation.

2 Live Demo

You should have a slide show that contains at least the following.

- A very brief introduction of the team members i.e. name and role in the team.
- A brief description of the project of between 400 and 500 characters (punctuation and spaces included). This description should also appear in the description field which you will find at the top of your landing page editor.

You should show the following:

- Implementation of at least three use cases constituting at least one core functionality of your project.
- **Automated tests** both unit and integrated testing for the implemented use cases

3 Deliverables

You should maintain the deliverable for your project. All the appropriate deliverable as well as your use of the tools specified in Section 3 will be evaluated with every demo. The appropriate artefacts should at all times reflect the detail and current state of the project under construction. You should strive to have a working prototype of the implementation available in your master branch at all times.

3.1 Landing Page

You should use simple HTML features to display the required content in a consistent and pleasing way.

- As much as possible use ClickUp tools for your group work and interactions - (*this will be graded*)

Your landing page should have the following:

1. Short description of your project.
2. Link to your Git Repository
3. Link to your Project management - scrum board tool of your choice (Waffle, Zenhub, etc.)
4. Individual profiles of the team members.

3.2 Working prototype

You should implement your system in such a way that you always have a working prototype of the system in your git master branch. The features that are not implemented yet should be mocked. For this demo we expect at least three low level uses cases to be implemented and tested.

3.3 Requirements and design documentation

This document should be kept in sync with your implemented project. The instructions for the first demo is given in the next section.

4 Requirements specifications

The main deliverable for the Capstone Demo 1 is the SRS for your project. You should use the mini project SRS as a guideline. The document should contain the following subsections:

- Introduction
- Domain model
- User characteristics
- Functional requirements
- Quality requirements
- Trace-ability matrix

4.1 Introduction

Explain the vision and objectives. State the business need for the application and summarise the scope of the project.

Domain model Show the domain concepts and their relations using UML class diagram syntax.

4.2 User characteristics

List all intended users and explain for what purpose each of them would use the system.

4.3 Functional requirements

4.3.1 Use cases

Draw high level use case diagrams for the use cases of your system. Number them for traceability purposes.

4.3.2 Requirements

Specify functional requirements to satisfy the use cases. Formulate them in terms of requirements and sub-requirements.

4.3.3 Subsystems

Assign the requirements to subsystems.

Group the requirements in logical modules that can be implemented as inter-dependent subsystems with low coupling and high cohesion.

4.4 Quality requirements

Specify and quantify each of the quality requirements relevant to the system. Examples of quality requirements include performance, reliability, scalability, security maintainability, usability. *Quantify the quality requirements of your system. E.g., Availability: Test system is expected to be at least 99.5% up time. Scalability: Test system is designed to handle 50millions users request per sec. For security: Role-based access control in to used.* Each of these quality requirements need to be either quantified or at least be specified in a testable way.

4.5 Trace-ability matrix - Requirements VS Sub-systems

A matrix with requirements numbers as rows and the sub-systems as columns. Include both functional and quality requirements. Indicate with x in the cells which subsystem will implement the solution to satisfy the requirement.

5 Assessment rubric

Item	Marks
Live Demo - At least 3 working use cases	30
Show Unit and integration testing	10
Introduction to your Requirements document	5
User characteristics	10
Functional requirements	20
Trace-ability matrix	10
Quality requirements	10
Quality of reflection in iPeer (individual)	5
Total	100

Note that individuals who are identified as social loafers or diligent isolates may be penalized by down-scaling of marks of team deliverables.

6 Project Client

You should have regular discussions/meeting with your project owner (client). Seek their approval of all artefacts that we require for COS 301. Give your client access to your git.

Your client is welcome to attend your demo, but it is not required. Ideally you should arrange to see your client for an additional half hour or more before or after your demo. The demo itself may be rushed and can not serve as an opportunity for you to ask your client some questions.

If your client needs access to campus – for the demo or any other meeting, please provide the following detail at least 36 hours before the time.

- Client Name
- Date
- Time
- Venue
- Vehicle description
- Vehicle registration number.