



INTRO

This week marks the beginning of your group project planning. It is important to remember that you will be working collaboratively on this project. You cannot do this as an individual project.

Project timeline:

Here is a brief outline of the group project timeline:

Week 3: Define and demonstrate a rough idea related to your area of expertise or a problem you consider significant.

Week 4: Refine the idea and create a 1-minute video presentation. Your peers will use these videos to decide which project to work on.

Week 5-6: Finalise team members and establish a project plan. Recommended group size is 3-5 members. Must have at least 2 members in a group.

Start group formation - either recruit team members or be recruited to start the project and have a solid idea and plan for the project.

Week 7: Sprint 1 development starts

Weeks 7, 8, 9 is Sprint 1

Week 10: Sprint 2 development starts. Project demos will be held for D/HD students this week (mandatory).

Weeks 10 & 11 is Sprint 2

Week 12: Final project demos (mandatory for all students)

Project Requirements


Your application must include the following core components to ensure a fully functional system:

- **Web Server** – The app must run on a web server that handles requests, processes data, and serves responses.
- **Database (MongoDB)** – The application must use MongoDB to store and manage data efficiently.
- **User Interface (UI)** – A functional and user-friendly interface must be provided for users to interact with the system.

Technology Stack for the project

You must use the following technologies in your project.

- **Programming Language:**
 - Node.js & Vanilla JavaScript –beginner-friendly yet powerful enough for both small and large-scale applications.
- **Web Development:**
 - HTML, CSS, and JavaScript – Core web technologies for building the UI.
 - Materialize CSS – A lightweight framework for styling and UI components.
 - Note: We will not use frontend frameworks such as React to keep the difficulty level manageable.
- **Database:**
 - MongoDB – Chosen for its strong integration with web technologies, flexibility, and scalability. It allows efficient data handling and is widely used in modern web applications.

 *We are avoiding full frontend frameworks like React to keep the difficulty level manageable, but useful libraries/tools that enhance functionality, such as EJS, Passport.js, and Mongoose, are acceptable.*

Topic alignment

The overall project topic should align with at least one of the School of IT's areas of expertise:

Software Engineering
Internet of Things (IoT)
Artificial Intelligence (AI)
Cybersecurity

Software engineering is the wildcard category, as it can encompass various topics.
Here are a few ideas to consider:

Software Engineering: Developing a bartering system for household goods.

AI: Creating a weather prediction system for farmers using AI technology.

IoT: Designing a system to track the status of appliances in large areas.

Security: Building a system to validate GitHub code.

These are just preliminary ideas. Keep in mind that the novelty of your project will also be considered. If you plan to create a simple online shop, it will require a clear and outstanding wow factor to be eligible for a high distinction (HD) grade. You may need to consult your tutor to discuss your project idea.


How will you be graded in the project?

There is **no** separate grade for the project or group grade. Your **grades are individual** and will depend on 1) the completion of your OnTrack tasks **and** 2) your individual contributions to the group project (which are mapped to specific OnTrack tasks as well).

Please see the rubric given in Task 7.5 for how your individual contributions will be graded.

Instructions

Prepare a one-slide presentation 1) introducing yourself 2) defining your idea, and 3) explaining why it is important to pursue it. You may use a tool like canva www.canva.com (or any other tool as you prefer).

 *Note that this is an **individual** task to get students start (individually) thinking about project ideas that fit the given project requirements.*

You do not have to stick with this idea for the actual group project. This exercise is meant to help you start thinking critically about real-world challenges and how your skills can address them. It's an opportunity to explore ideas and begin framing your project with a clear focus.

Submission details and Delivery

Once completed, upload the “one PowerPoint slide” as a pdf on OnTrack.