

Development Plan

Software Engineering

Team 4, EventHub
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Table 1: Revision History

Date	Developer(s)	Change
Date1	Name(s)	Description of changes
Date2	Name(s)	Description of changes
...

[Put your introductory blurb here. Often the blurb is a brief roadmap of what is contained in the report. —SS]

[Additional information on the development plan can be found in the [lecture slides](#). —SS]

1 Confidential Information?

[State whether your project has confidential information from industry, or not. If there is confidential information, point to the agreement you have in place. —SS]

[For most teams this section will just state that there is no confidential information to protect. —SS]

2 IP to Protect

[State whether there is IP to protect. If there is, point to the agreement. All students who are working on a project that requires an IP agreement are also required to sign the “Intellectual Property Guide Acknowledgement.” —SS]

3 Copyright License

[What copyright license is your team adopting. Point to the license in your repo. —SS]

4 Team Meeting Plan

[How often will you meet? where? —SS]

[If the meeting is a physical location (not virtual), out of an abundance of caution for safety reasons you shouldn’t put the location online —SS]

[How often will you meet with your industry advisor? when? where? —SS]

[Will meetings be virtual? At least some meetings should likely be in-person. —SS]

[How will the meetings be structured? There should be a chair for all meetings. There should be an agenda for all meetings. —SS]

5 Team Communication Plan

- Issues: GitHub
- Meetings: MS Teams, Discord
- Meetings (with advisor): MS Teams
- Project Discussion: Discord

6 Team Member Roles

[You should identify the types of roles you anticipate, like notetaker, leader, meeting chair, reviewer. Assigning specific people to those roles is not necessary at this stage. In a student team the role of the individuals will likely change throughout the year. —SS]

7 Workflow Plan

The repository will have two primary branches, one for development and one for documentation, responsible for technical development and software documentation respectively.

The average workflow will be as follows:

- Pull changes from primary branch depending on the task at hand
- Create an issue for the assigned task if one does not already exist
- Create a new branch with the naming convention of: [assigned task - name of contributor]
 - If it is a new task, create a branch directly under the primary
 - If it is a follow up/subtask, create a sub-working branch from previous branch
- Commit changes with detailed message
- Create unit tests for changes
- Open a pull request to the primary branch
- Link issue to pull request
- Wait for approval from other members and for testing to pass
- Merge pull request

Issues will be managed through GitHub Issues. Through GitHub Project boards, issues will be linked to notable meetings and milestones, and classified into categories: Meetings, To Do, In Progress, and Done. Each issue will be assigned to the relevant team members, who can provide feedback, report errors, and organize tasks. Issues will be tagged with distinct labels to indicate their priority, timeline, and type (e.g., bug, feature, documentation).

8 Project Decomposition and Scheduling

The project is hosted on GitHub at the following link:

A Kanban Board project setup is currently being used to track the progress of the project. The board is divided into four columns: Backlog, To Do, In Progress, and Done. Each task is represented as a card that can be moved across the columns as it progresses through different stages of completion. This visual representation allows team members to easily see the status of each task and identify any bottlenecks in the workflow.

The cards can pertain to:

- Lectures
- Group and Supervisor Meetings
- Project Milestones

The project is scheduled to be completed over the course of two semesters. However, we aim to have a working prototype by January to be tested across various events, including the Fireball Formal, and CALE Conference.

Deliverable	Due Date
Problem Statement and Goals, and Development Plan	Week 4
Requirements Documentation and Hazard Analysis (Revision 0)	Week 6
Verification and Validation Plan (Revision 0)	Week 8
Proof of Concept Report	Week 9
Design Document (Revision 0)	Week 10
Proof of Concept demos	Week 11
Functional Prototype	January

9 Proof of Concept Demonstration Plan

What is the main risk, or risks, for the success of your project? What will you demonstrate during your proof of concept demonstration to convince yourself that you will be able to overcome this risk?

10 Expected Technology

[What programming language or languages do you expect to use? What external libraries? What frameworks? What technologies. Are there major components of the implementation that you expect you will implement, despite the existence of libraries that provide the required functionality. For projects with machine learning, will you use pre-trained models, or be training your own model? —SS]

[The implementation decisions can, and likely will, change over the course of the project. The initial documentation should be written in an abstract way;

it should be agnostic of the implementation choices, unless the implementation choices are project constraints. However, recording our initial thoughts on implementation helps understand the challenge level and feasibility of a project. It may also help with early identification of areas where project members will need to augment their training. —SS]

Topics to discuss include the following:

- Specific programming language
- Specific libraries
- Pre-trained models
- Specific linter tool (if appropriate)
- Specific unit testing framework
- Investigation of code coverage measuring tools
- Specific plans for Continuous Integration (CI), or an explanation that CI is not being done
- Specific performance measuring tools (like Valgrind), if appropriate
- Tools you will likely be using?

[git, GitHub and GitHub projects should be part of your technology. —SS]

11 Coding Standard

[What coding standard will you adopt? —SS]

Appendix — Reflection

[Not required for CAS 741 —SS]

The purpose of reflection questions is to give you a chance to assess your own learning and that of your group as a whole, and to find ways to improve in the future. Reflection is an important part of the learning process. Reflection is also an essential component of a successful software development process.

Reflections are most interesting and useful when they're honest, even if the stories they tell are imperfect. You will be marked based on your depth of thought and analysis, and not based on the content of the reflections themselves. Thus, for full marks we encourage you to answer openly and honestly and to avoid simply writing "what you think the evaluator wants to hear."

Please answer the following questions. Some questions can be answered on the team level, but where appropriate, each team member should write their own response:

1. Why is it important to create a development plan prior to starting the project?
2. In your opinion, what are the advantages and disadvantages of using CI/CD?
3. What disagreements did your group have in this deliverable, if any, and how did you resolve them?

Appendix — Team Charter

[borrows from [University of Portland Team Charter](#) —SS]

External Goals

[What are your team’s external goals for this project? These are not the goals related to the functionality or quality of the project. These are the goals on what the team wishes to achieve with the project. Potential goals are to win a prize at the Capstone EXPO, or to have something to talk about in interviews, or to get an A+, etc. —SS]

Attendance

Expectations

[What are your team’s expectations regarding meeting attendance (being on time, leaving early, missing meetings, etc.)? —SS]

Acceptable Excuse

[What constitutes an acceptable excuse for missing a meeting or a deadline? What types of excuses will not be considered acceptable? —SS]

In Case of Emergency

[What process will team members follow if they have an emergency and cannot attend a team meeting or complete their individual work promised for a team deliverable? —SS]

Accountability and Teamwork

Quality

[What are your team’s expectations regarding the quality of team members’ preparation for team meetings and the quality of the deliverables that members bring to the team? —SS]

Attitude

[What are your team’s expectations regarding team members’ ideas, interactions with the team, cooperation, attitudes, and anything else regarding team member contributions? Do you want to introduce a code of conduct? Do you want a conflict resolution plan? Can adopt existing codes of conduct. —SS]

Stay on Track

[What methods will be used to keep the team on track? How will your team ensure that members contribute as expected to the team and that the team performs as expected? How will your team reward members who do well and manage members whose performance is below expectations? What are the consequences for someone not contributing their fair share? —SS]

[You may wish to use the project management metrics collected for the TA and instructor for this. —SS]

[You can set target metrics for attendance, commits, etc. What are the consequences if someone doesn't hit their targets? Do they need to bring the coffee to the next team meeting? Does the team need to make an appointment with their TA, or the instructor? Are there incentives for reaching targets early? —SS]

Team Building

[How will you build team cohesion (fun time, group rituals, etc.)? —SS]

Decision Making

[How will you make decisions in your group? Consensus? Vote? How will you handle disagreements? —SS]