Project Methodology Plan

Planned Activities and Artifacts

Prototype Iteration Phases

Each iteration will consist of 4 phases that incrementally add features to a running prototype of the project. After each iteration is completed, incomplete features may be rolled over into the next iteration, but the goal of each iteration is to create a working prototype with defintive features to present to sponsors.

1. Planning (1/2 week)
    - Prototype planning
        - Deciding on what features will be included in the next iteration.
    - Prototype plan
        - A feature document outlining the expected features to be completed in the coming iteration.
    - Decide on new metrics to add
        - Reflect on evaluation from previous iteration and change tracked metrics for this coming iteration.
2. Risk Analysis & Research (1 week)
    - Risk analysis meetings
        - Update the risk register with new information and confirm the risks are addressed/known for this coming iteration.
    - Risk register (as roadmap for research)
        - The catalog of risks, the impact, and the change of occuring. A running risk register is ammended to, but a copy of the register is saved at the end of risk analysis.
    - Sub-team research meetings
        - Subteams meet to research features and their risks for the coming engineering phase. Each sub-team will engineer the feature that they research.
3. Engineering & Testing (1-2 weeks)
    - Team updates and sub-team meetings
        - Teams give periodic updates throught the engineering phase. Sub-teams meet independently to work together.
    - Update old and create new diagrams and documentation
        - Diagrams are updated according to the new features.
    - Scope trimming meeting
        - Nearing the end of engineering and testing, the whole team meets to trim features that were not feasible to complete in this iteration.
4. Evaluation (1/2 week)
    - Retrospective meeting
        - Meet to discuss what went well / what did not go well.
    - Collect and analyze metrics for this past prototype
        - Collect process, project, and product metrics to see the change of the project over time.
    - Overal prototype evaulation (self-grade on process)
        - The team gives a self-grade on the team's process flows for the past iteration.

Roles - How they interface with your methodology

- Sub-team leads (both for research and engineering)
- Group meeting leaders (to keep things on track)

Standards and Quality Practices

- Engineering and testing will be time-boxed. If integration of new features is not completed in the time-frame, cut the scope of the prototype down to what works and end the iteration.
- Especially risky reserach will be also time-boxed.
- Sub-team unit-testing happens in its own time-box.
- Full-team integration testing happens in its own time-box.

Tools

- Risk Register: Tracking the evolution and resolution of risks throughout the project.
- GitHub Issues: Tracking jobs for members/sub-teams to work on.
- Feature backlog
- Spike backlog: Architecture, Research, Decision