ATLS 4320: Advanced Mobile Application Development
Agile Development

Project Management Process

The waterfall development method has been around since 1970 and treats the software development process as a single path through different phases where each phase is completed before the next starts.
Analysis – design – development – testing – deployment – maintenance
The advantage of the waterfall process is that each phase is well defined and forces the client and development team to spend time thinking thought the requirements and design up front.
The disadvantage is it creates a long development process where all requirements and design must be done up front and there's no opportunity to modify, improve, or fine-tune along the way.
This comes more from the hardware industry and is being used less in the software industry.

Agile Methodology

The agile development method takes an iterative approach where you break up projects into smaller chunks of work called iterations, or sprints, so you can quickly define, create, and iterate. Each sprint receives feedback and then priorities and tasks are set for the next sprint. This allows for client feedback, early user testing, time to react to business changes, and the ability to modify and fine-tune along the way if needed. It provides the agility to both create and respond to change. Some form of the agile development process is most commonly used today for software development.

Agile is a development methodology where you break up projects into smaller chunks of work called iterations, or sprints, so you can quickly define, create, and iterate. This lifecycle makes it easier to adapt to user feedback and react to business changes. It provides the agility to both create and respond to change.

Agile Manifesto Principles https://agilemanifesto.org/principles.html

What is Agile? https://www.linkedin.com/learning/devops-foundations-lean-and-agile/what-is-agile-2?u=42275329

We'll have 3 sprints, 4 weeks each.

<u>Phases</u>

- Envision (vision)
    - Product vision - *what* to deliver
        - What is the customer's product vision?
    - Product scope
        - What is the scope of the project and its constraints?
    - Project community
        - Who are the right participants to include in the project community?
    - Project team organization
        - How will the team deliver the product?
    - Outcome
        - **Project vision** (charter)
            - Objectives
            - Scope/boundaries
            - Product description/summary statement

                - Target customer
                - Key benefits
                - Purpose
- Speculate (plan)
    - Refine information gathered in the Envision phase
    - Expand the product vision into more detail
    - Transform requirements into detailed features
        - A feature is a piece of functionality that focuses on a specific business need
    - Prioritize feature list and features from previous iteration
    - Estimate the workload for each feature
        - In the first iteration you should estimate the work effort for all features
        - In future iterations estimates might need to be adjusted
    - Identify features for upcoming iteration
    - Outcome
        - **Iteration plan**
            - Feature list for the current iteration
            - Once the scope of an iteration is agreed upon it should not change
- Explore (create)
    - Specifications and design are implemented
    - Daily stand-up meetings
        - Report progress
        - Identify issues
    - Outcome
        - **Implemented feature list**
        - The explore phase ends either when the planned features for the sprint are completed or when the time allocated has been reached.
- Adapt (review)
    - Capture and apply lessons learned
    - Share lessons
    - Set/adjust expectations
    - User, technical, and business review and feedback
    - Adaptive actions are incorporated into the next iteration
    - Outcome
        - **Lessons learned**
            - What did and did not work?
            - Changes to be made
            - User feedback
    - Proceed to speculate phase for next iteration or close phase to end the project
- Close
    - Deliverables are completed
    - Capture lessons learned
    - Outcome
        - **Lessons learned**
            - What did and did not work during the Agile process?