

CSE 115A - Introduction to Software Engineering

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What even is Software Engineering?

- Not Computer Science
- Not just programming
- What makes software different than other mediums?

It is about Products, process, and creating useful systems. It is about the programming and Computer Science, but it is also about what and why you are building what you are building, as well as how you build it, who you work with, how people contribute, how decisions are made, etc.

Learning Goals

- Design principles
- Processes
- Development methods

Hierarchy of Changes, planning and Estimates

- High level versions
- each version contains multiple sprints
- Each sprint contains multiple stories
- Each story contains multiple tasks to be completed

Planning at the low level includes exact implementation details. At the high level planning includes features, fixes, api design, etc. At the highest level planning is about what each 'finished' version of the software will be.

Release Plan

Transfer to customer, and the thing being created.

Suggestions are collected. The team works to convert suggestions into specific tasks and features. Only a portion of all suggestions and requests can be fulfilled.

Roles

- team
 - Team No hierarchy here. Developers are supposedly equally empowered to determine how each sprint works. Should only change membership between sprints.
Ideally its composed of different people with many different skills.
 - Product Owner, define features of product, decides on release date and content, responsible for profit, prioritize features, accept or reject results.
 - SCRUM master
represents project management, manages and facilitates SCRUM, works to keep team productive, interface with external management.

Each Sprint is fixed. Change only happens between sprints or when all developers agree.

Release

- Determine User Stories to include
 - Goal, or thing user wants to do
 - Analyze concept
 - decompose into set of stories
 - prioritize stories
 - estimate difficulty and time required for each story

Direction of sprint planning process, functional description of what the product should be.

INVEST

- Independent
Free of implementation dependencies on other stories
- Negotiable
Must be concrete enough to be debated.
- Valuable
Should be worth the effort
- Estimateable
Possible to estimate order of magnitude or relative amount of work
- Sized appropriately
Need to fit in a sprint, or be converted into tasks which can be finished in a sprint
- Testable
Should be verifiable that the story has been implemented or resolved