SWE 265P
Reverse Engineering and Modeling

Lecture 6

Duplication of course material for any purpose without the explicit written permission of the professor is prohibited.
“Sometimes to understand code you have to understand the goal or intention which usually requires understanding the domain.” – Lee Martie [Research staff engineer, MIT-IBM Watson AI Lab]
“First you need to know what the purpose of the system is/what it does, understand high-level goals so you can read code in context (will make it easier).” – Alegria Baquero [Senior software engineer, Zocdoc]
“Start to make contributions asap, even if you don’t understand the whole context, pick issues that are simple to resolve and take a stab at them.” – Nicolas Lopez [Senior software engineer, Google]
Today

- Class survey results
- Last week’s material
- Key expert practices
- Big picture
Class survey – benefited most

• UML

• IntelliJ & plug-ins

• Setting the right expectations

• How to read code

• Visitors
Class survey – benefited least

- Templates
- Mental models
- Homework & rubric
- Big UML
Class survey – other topics

• More tools / techniques / diagrams / graphs

• Refactor & leave the code in better shape than you found it

• Contributing to open source

• Higher-level concepts

• Beacons
Class survey – anything else

- Good open source systems & books
- More complex examples
- Homework expectations
- Individual tasks
Last week’s material

- Key expert practices
  - are skeptical
  - simulate continually
  - draw examples alongside their diagrams

- Mental simulation

- Any questions?
Last week’s homework

• Generic feedback
  – dive deeper into the features
  – diagrams on their own are not helpful
  – code snippets are not good abstractions

• Grades are going to be lower

• Diaries
KEP #7: prioritize among stakeholders
KEP #8: move along levels of abstraction
KEP #9: do something (else)
The big picture

• Who are the stakeholders?

• What functionality does the system (aspire to) provide?

• Who are the key developers?
Stakeholders

• A person with an interest or concern in something, especially a business

• A group, corporate, organization, member, or system that affects or can be affected by an organizations’ actions

• An individual, team, organization, or classes thereof, having an interest in the realization of the system
  – https://www.viewpoints-and-perspectives.info/home/stakeholders
  – acquirers, developers/maintainers (core), suppliers, users
Functionality

• What is the overall domain of the system?

• What are the essential functional aspects of the system?

• What are the essential non-functional aspects of the system?

• What is unique about the system?
Key developers

• Core maintainers
• Team members
• Developers
• Testers (sometimes)
• Triagers (sometimes)
• Documentation writers (sometimes)
Homework (team)

• With your team, document ‘the big picture’ for your system
  – stakeholders
  – functionality
  – key developers

• With your team, identify 5 open issues for your system that you think you may be able to address
Homework (continued)

• Make sure to regularly update your personal diary, including an entry for today’s lecture