SWE 265P
Reverse Engineering and Modeling

Lecture 6

Reality

"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]

Reality

"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]

Reality

"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

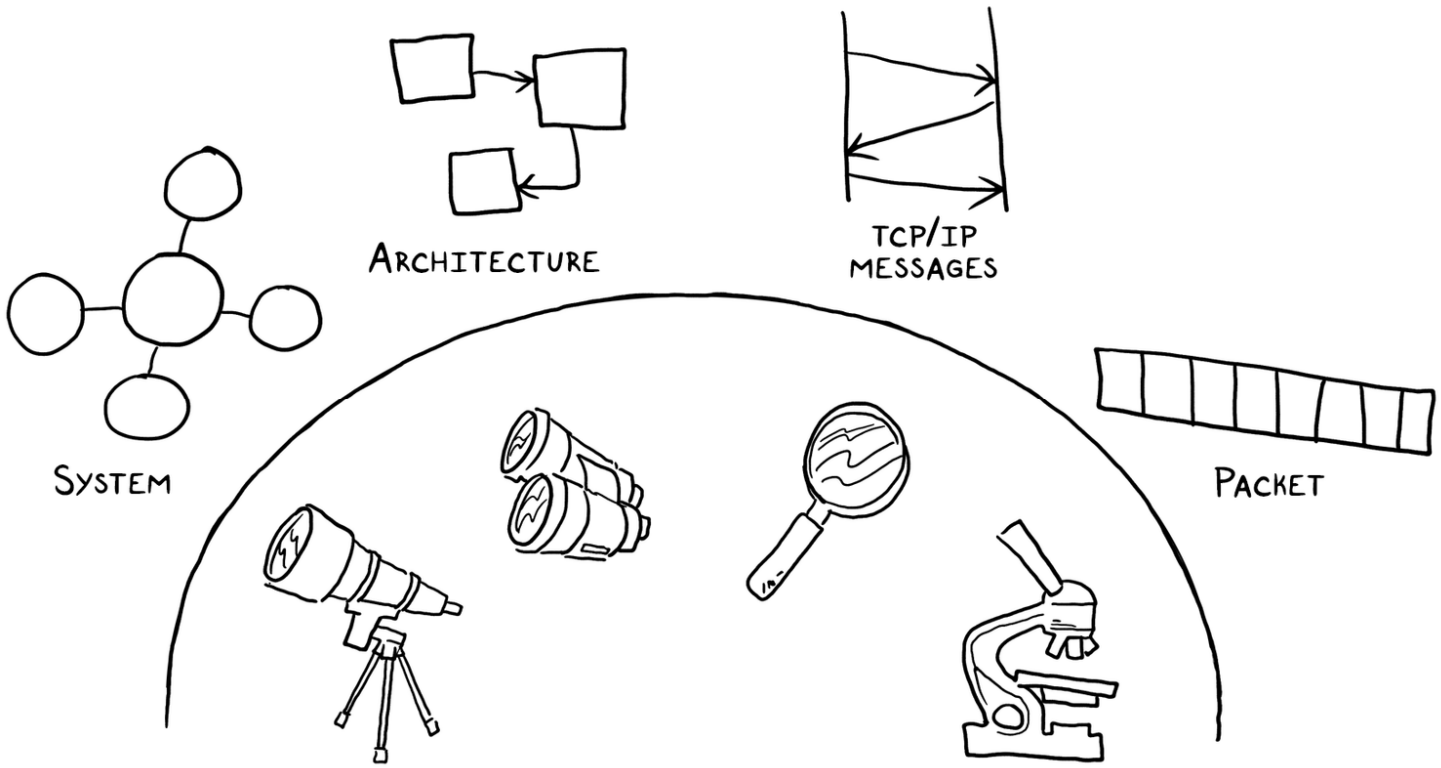
- Key expert practices
  - are skeptical
  - simulate continually
  - draw examples alongside their diagrams
- Mental simulation
- Any questions?

Last week's homework

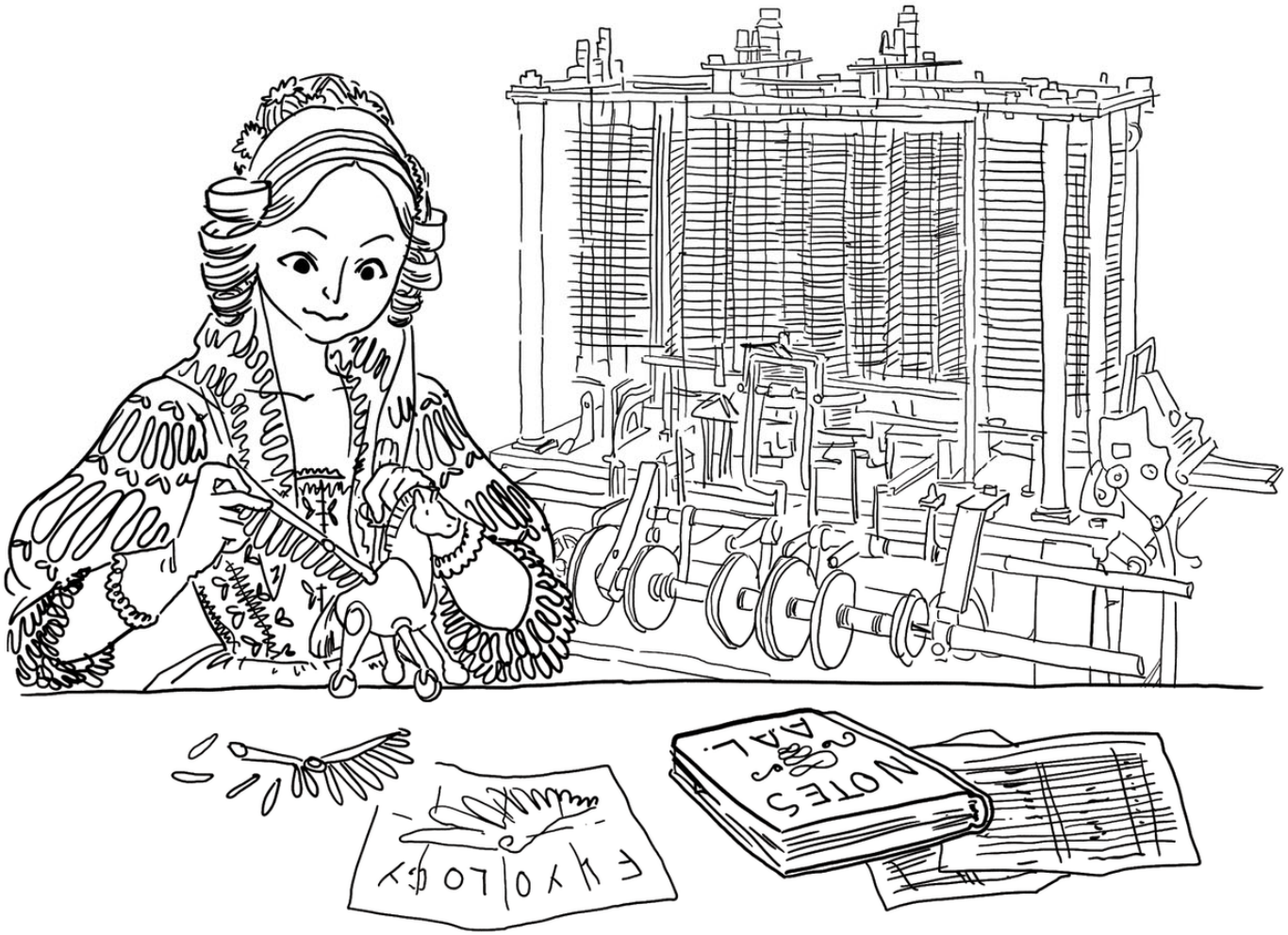
- Generic feedback
  - dive deeper into the features
  - diagrams on their own are not helpful
  - code snippets are not good abstractions
- Grades are going to be lower
- Diaries

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