Software Engineering Day in the Life

COMPSCI 308 – 2022-04-11

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Big Picture
Every Job will be Unique

Everything in these slides is meant to give you a flavor of what to consider about places of employment.

Orange – Unlikely to have encountered in your projects

Blue – Likely to have encountered in your projects

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“The Best Job in America”

- Work is intellectually stimulating
- Colleagues are largely competent
- You actually build things that run at the end of the day
- Each day and task is different
- Culture of trying new things
- Constant Learning
- **Excellent** Pay
- Flexible work schedules and situations
- Many sources of job security

https://xkcd.com/303/

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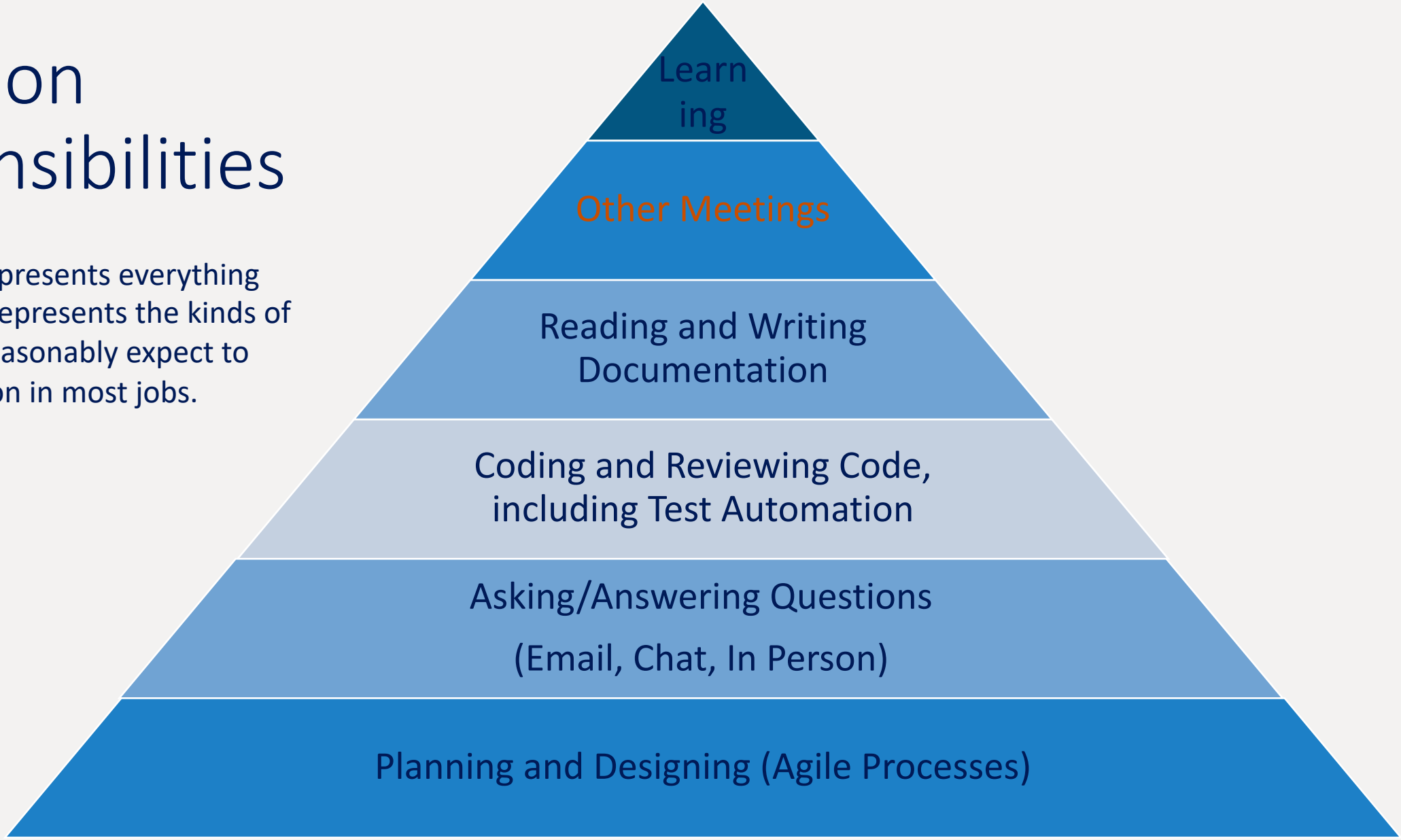
Common Responsibilities

This in no way represents everything you will do, but represents the kinds of things you can reasonably expect to spend you time on in most jobs.



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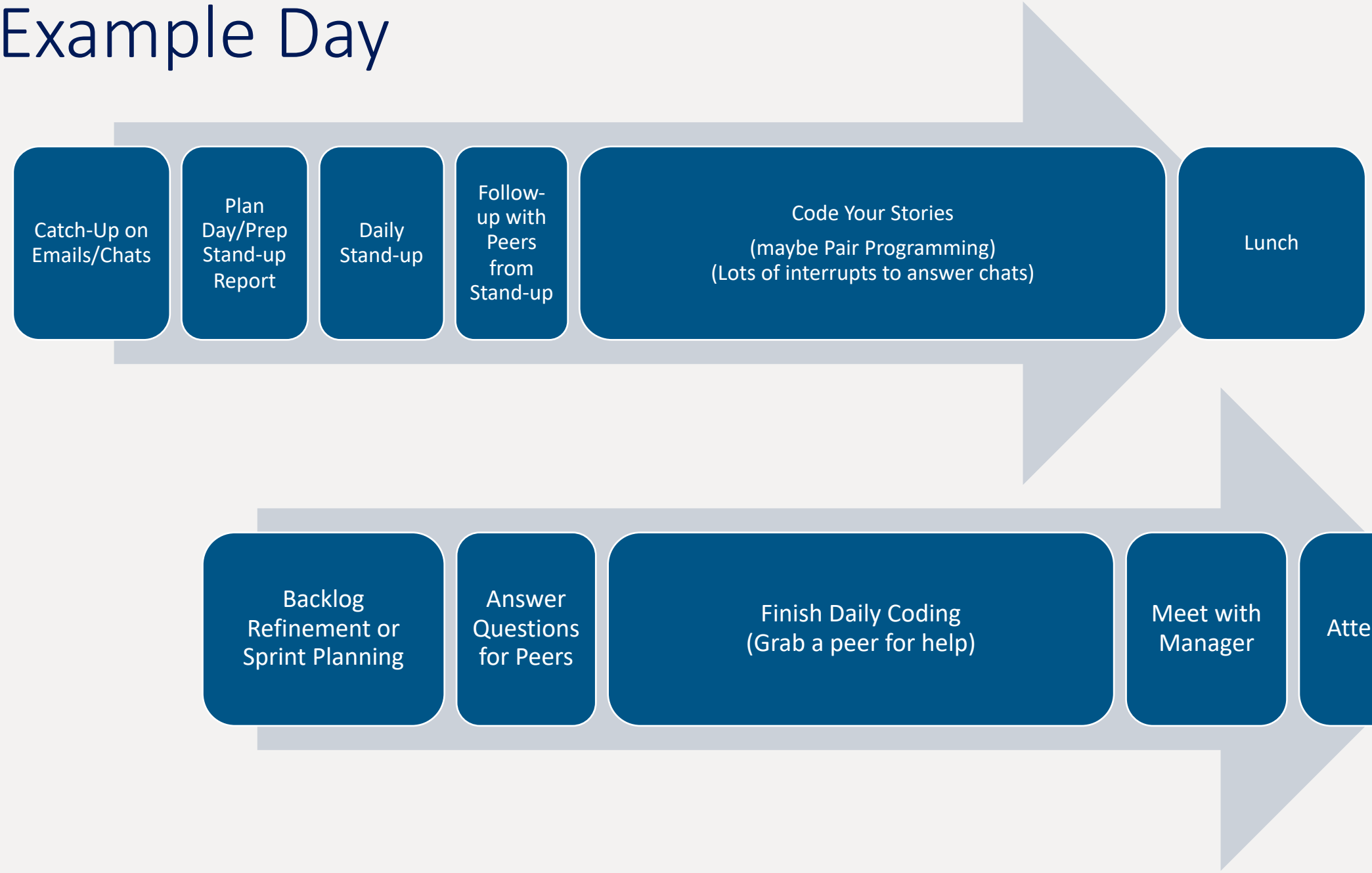
Example Day



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Work Style features that Vary Significantly Between Places

https://xkcd.com/2562/

- On-Call Responsibilities
- Degree of Independence/Explicitness of Rules
- Frequency of Releases and Degree of Automation
- Technical Sophistication of “Platforms”
- Technical sophistication of management and peers
- Remote vs. In-Person vs. Hybrid
- Pair vs. Independent Programming
- Synchronous vs. Asynchronous Communication
- “Culture”

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Daily Challenges of Software Work

- Estimation is extremely difficult, which makes effective planning a constant challenge
- Very difficult to decide what's "good enough" – scope is always in flux
- More features than you could ever get done
- Getting access to the knowledge you need (made worse with poor documentation)
- Trade-off between investing for the future and delivering now
  - Shortcuts lead to tech debt, which makes everything slower and harder
- Many ways to do things and standardization takes effort
- Software verification (testing) is an art and not a science

https://xkcd.com/619/

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Daily Challenges of Software Work

- Rarely working on a project from scratch and need to account for “current state”
- Major decisions are made by higher-ups who don’t understand technical details
- Continuous Learning
  - Need facility in dozens of tools
  - Tools change too quickly to master of all of them
- Subject matter experts are frequently not technically knowledgeable
- Many decisions are made for non-technical reasons (ie, cost of contract)
- Engineering teams have to choose implementations within their ability
- Complexity builds up over time and has to be continually pruned

https://xkcd.com/979/

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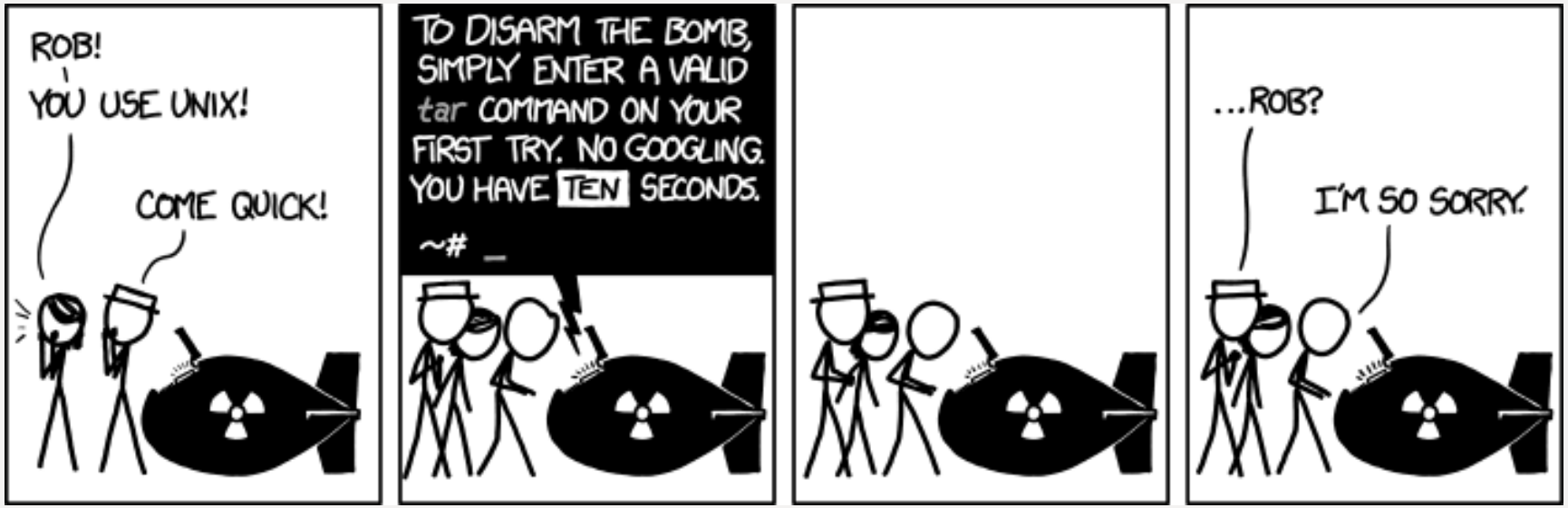
Other Random, Frequent Tasks

- Presenting/Demoing Your Work
- Team Building
- Formal Trainings
- Assessing 3rd Party Software
- Giving and Receiving Feedback

- Meeting with Management (1-on-1s)
- Automating Small Tasks
- Educating Management
- Work Overhead (Timesheets, Corporate Training, etc)
- Travelling and Attending Conferences



https://xkcd.com/1168/

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