Recitation 6: Design Project

MIT - 6.033
Spring 2022
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Background

* Management system for electric utility.
* Smart Meter, microgrid controller, utility central

Two goals

1) Put solar power back in the grid
2) Microgrids – keep power on in local areas

+ Accounting
+ Research
Design project

- It’s big & complicated
  * Like a paper, will not understand immediately
  * Spec will change over time
  * Broken down into pieces to be manageable
  * You don’t need to develop a soln now

- Why a design project
  - Problems are complicated, messy, underspeed
  - Teamwork is crucial

⇒ Amir shares experience with design project.
Rectation Qs

1. What sort of challenges will come up?
2. How will you address them?
3. Why do we design large systems in teams?

FAQs:
- Coding? No coding.
- Pitfalls of other groups? Communication, legalistic reading of spec.
- Scale for the future?
Things to think about

- What question did you wish you had been asked? Maybe answer that one... follow your interest/excitement.

- Impact of systems design on people
  * Who wins/who loses?
  * Who gains power (he) / who loses?
  * What are the possible futures in which this system is used?

- Evaluation: How will you know if the system is "working?"
  * What does this even mean?
In groups

* What are the goals?

* What are the modules/parts?

* What parts exist already vs. need to be designed?
Groups

How are "standard" design goals relevant here?

- Scalability
- Fault tolerance
- Security
- Performance
- Interoperability