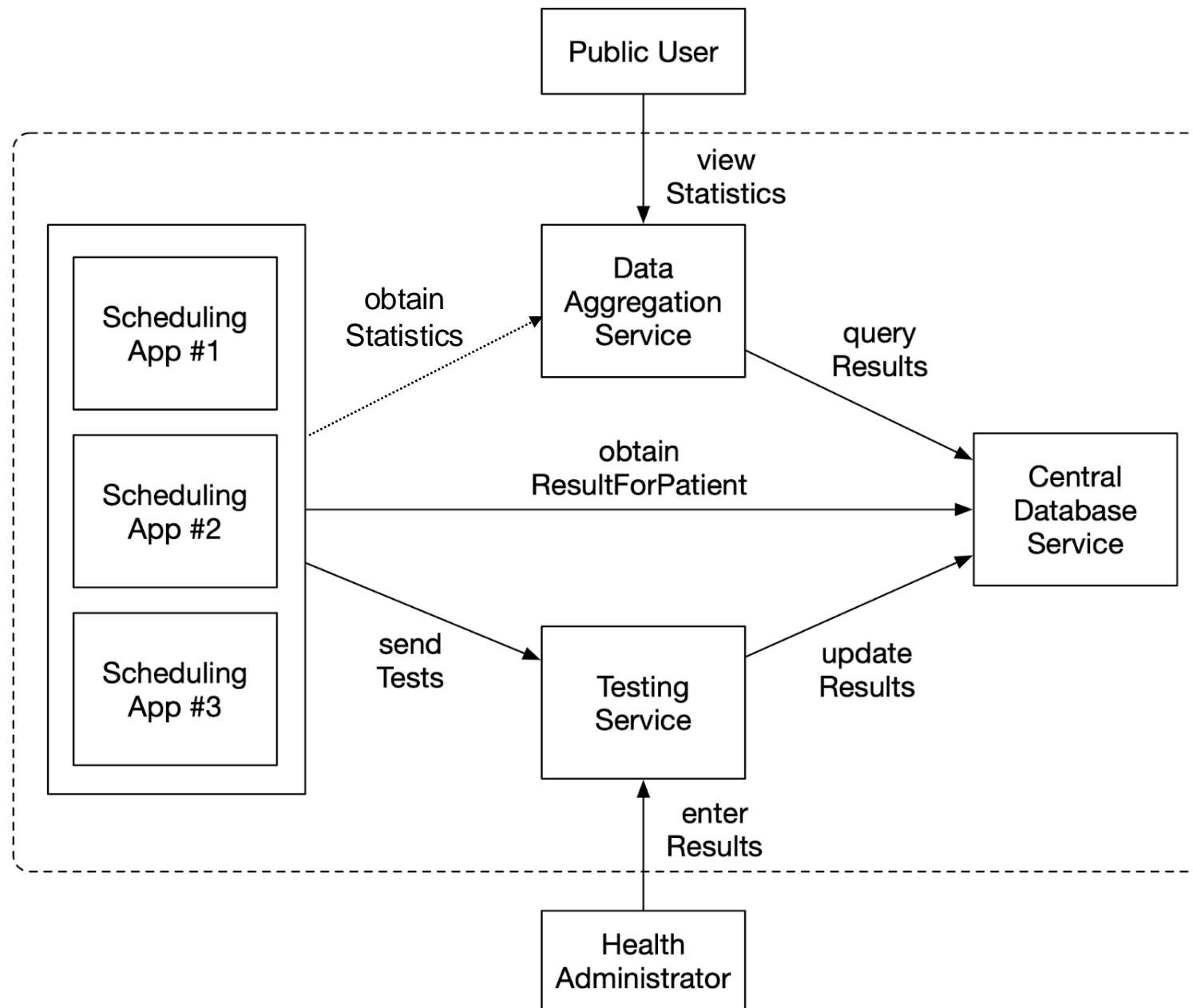# 17-423/723: Designing Large-scale Software Systems

## Interface Design Session

Mar 12, 2025

# Design Session Plan

1. Identify use cases (10 min)
2. Design an initial version of API (15 min)
3. Share the design (10 min)
4. Review & critique (15 min)
5. Clarify & refine (10 min)

# Identify use cases (10 min)

- **Goal**: Understand how this service will be used and interact with the other services & scheduling apps
- Brainstorm & identify use case scenarios that involve your team's service
  - Sketch them out using sequence diagrams!

# Design an initial version of API (15 min)

- For each API function, identify:
  - Contract (i.e., pre- & post-conditions)
  - Input & output parameters
  - Data ontology, describing the meaning of the parameters, constraints, and (if applicable) relationships between them
- Document your design in the shared Google Doc
- Nominate one person to present the design to the class

# Share your design (10 min)

- Briefly describe the API for your team's service to the class

# Review & Critique (15 min)

- Read and discuss the APIs for the other teams' services on the shared document
- Consider:
  - Does the APIs support the use case scenarios identified in Step #1?
  - Is the contract for each API well-defined? Is it general enough or too restrictive? Is it too strong or too weak?
  - Is the meaning of the parameters clear?
  - Are there ways to improve the API?
- Leave questions or suggestions for changes directly using Google Doc comments

# Clarify & Refine (10 min)

- Read the comments on your team's API
- Ask any clarifying questions
- Modify and refine the API based on the comments

# Next Steps

- Finalize the APIs by **Monday, March 17**
- Implement the new feature (test reporting) for your scheduling application
- In Milestone 4, you will implement your service and integrate with the other teams