JSCOPE Presents...

Fund Good Deeds

JSCOPE Team: Connor Bashaw, Oliver Gomes, Jonathan Ho, Patrick Lebeau

Team

Oliver – Model Lead

- Need , Funding, Ledger Entities and business Rules

Patrick – Persistence Lead

- CSV Load / Save
- Repositories
- Data integrity

Jonathan – Controller Lead

- Need Controller, Funding Controller, Master Controller

Connor – View Lead + PM

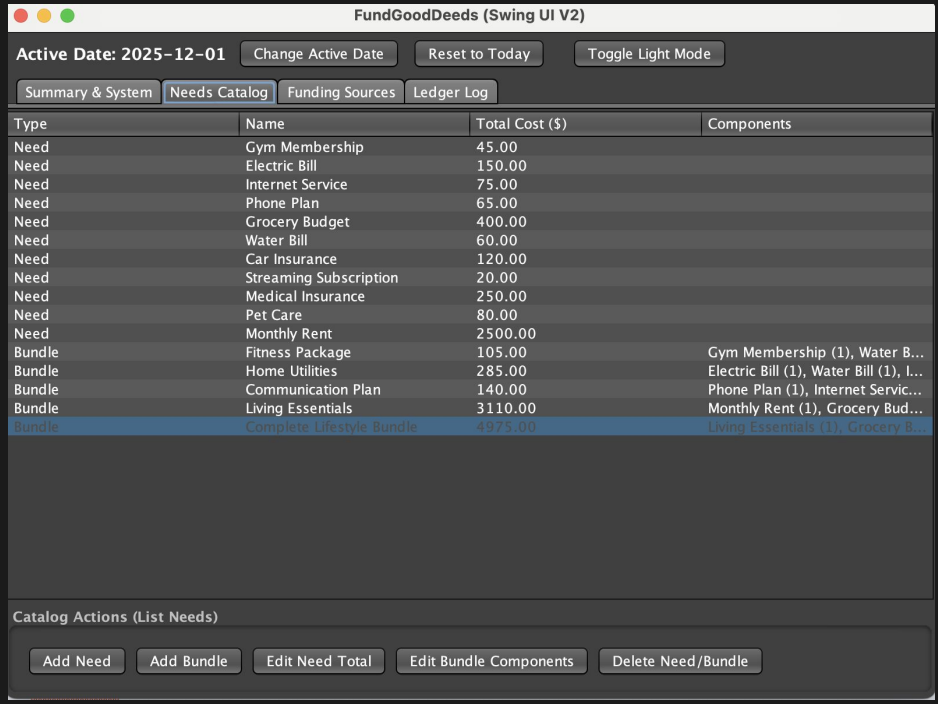
- Swing UI, CLI, story breakdowns, pacing.

What We’re Solving

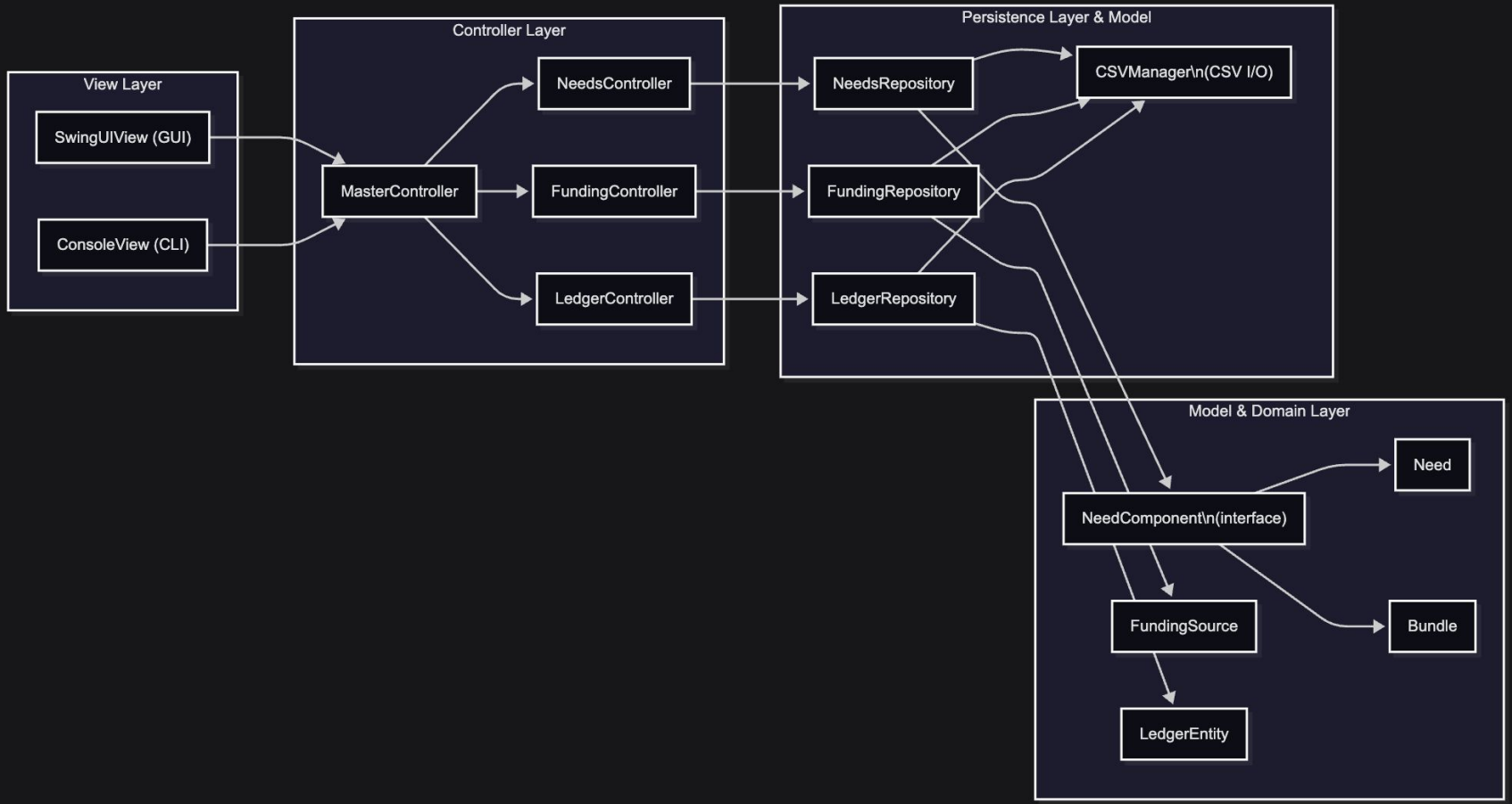
- Expand Fund Good Deeds App with funding sub system
- Implement new repos, and Master Controller to coordinate workflow
- Add GUI Functionality
- Update Architecture diagrams
- Maintain MVC Compliance
- Follow V2 Requirements from site.

R2 Solution

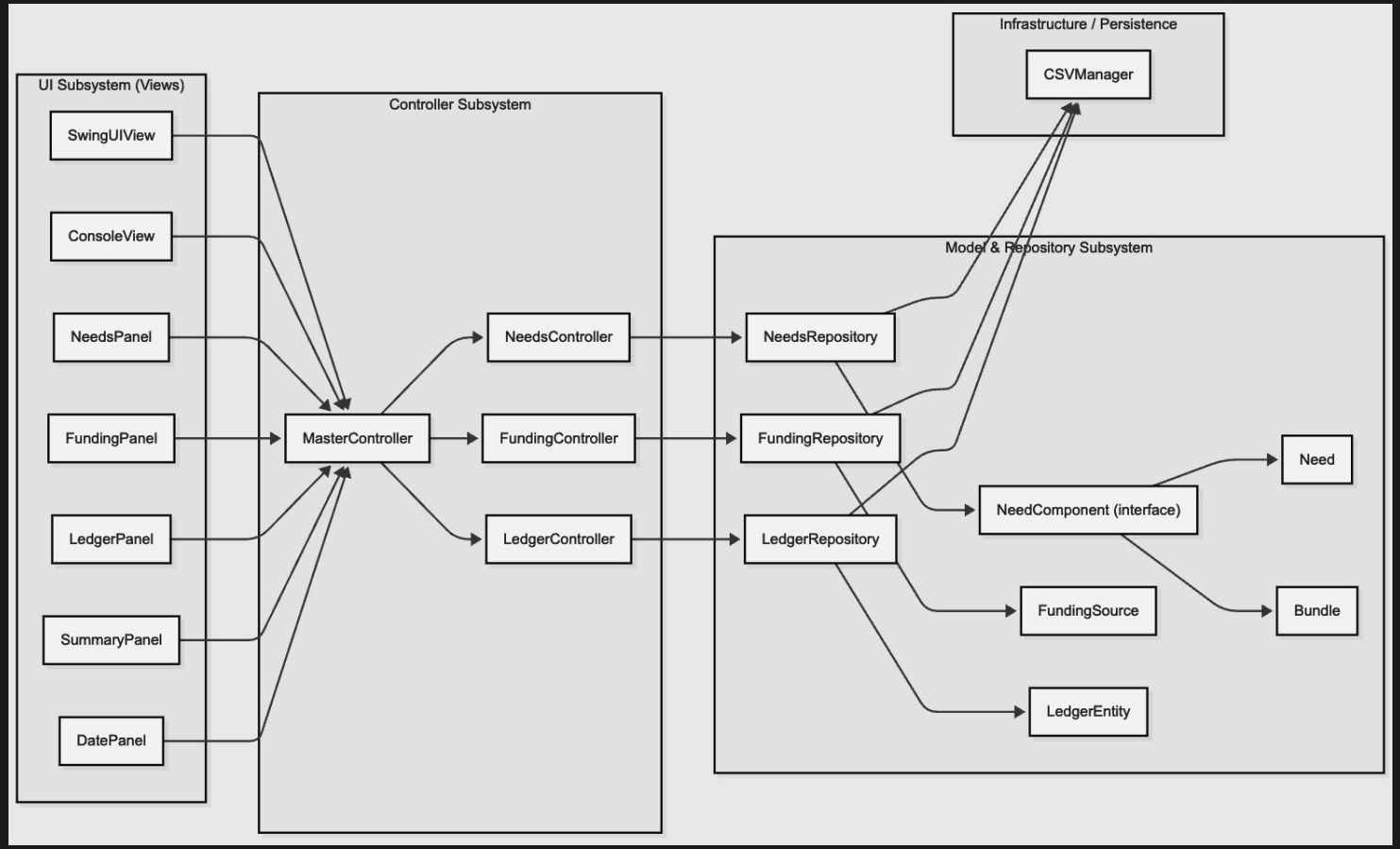
- Funding Source Implementation
  - Funding Controller, and Funding Repository
- Master Controller for cross subsystem actions
- Need and Funding allocation actions
- Swing UI Implementation
- Observer Based UI Refresh
- Update class + sequence Diagrams



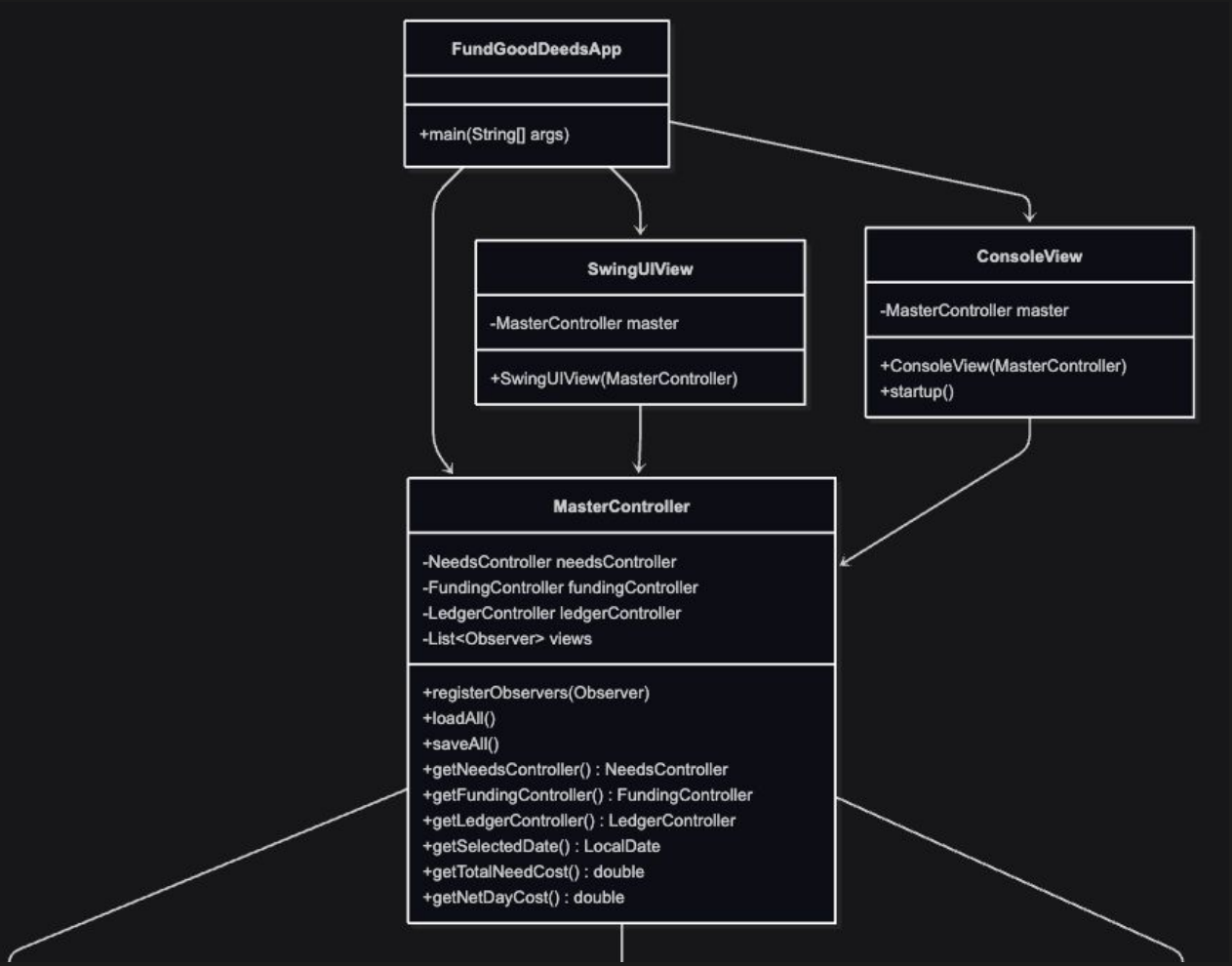
Architecture Overview (MVC + REPOS)



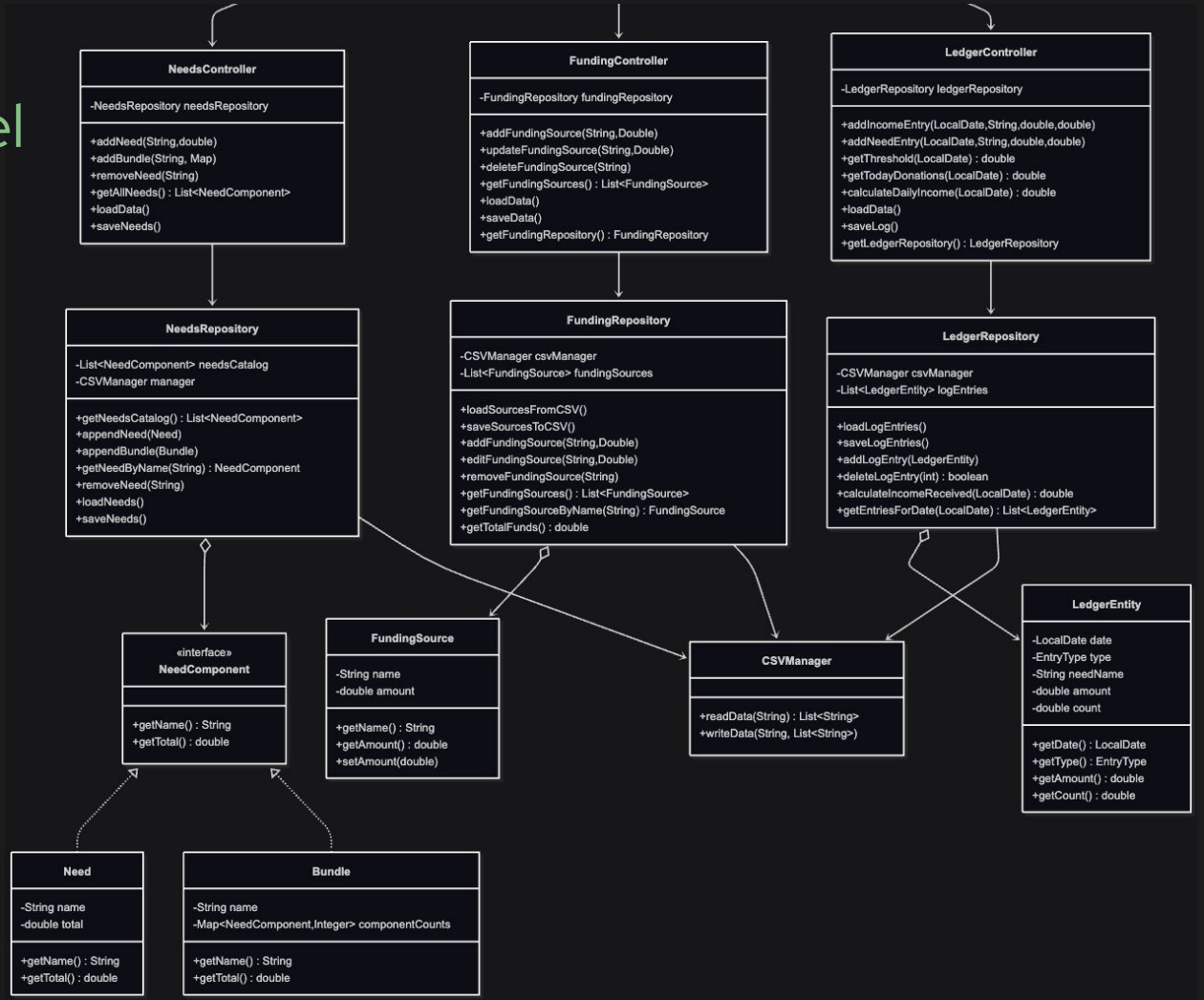
Subsystem Breakdown



View + Controller Relationship

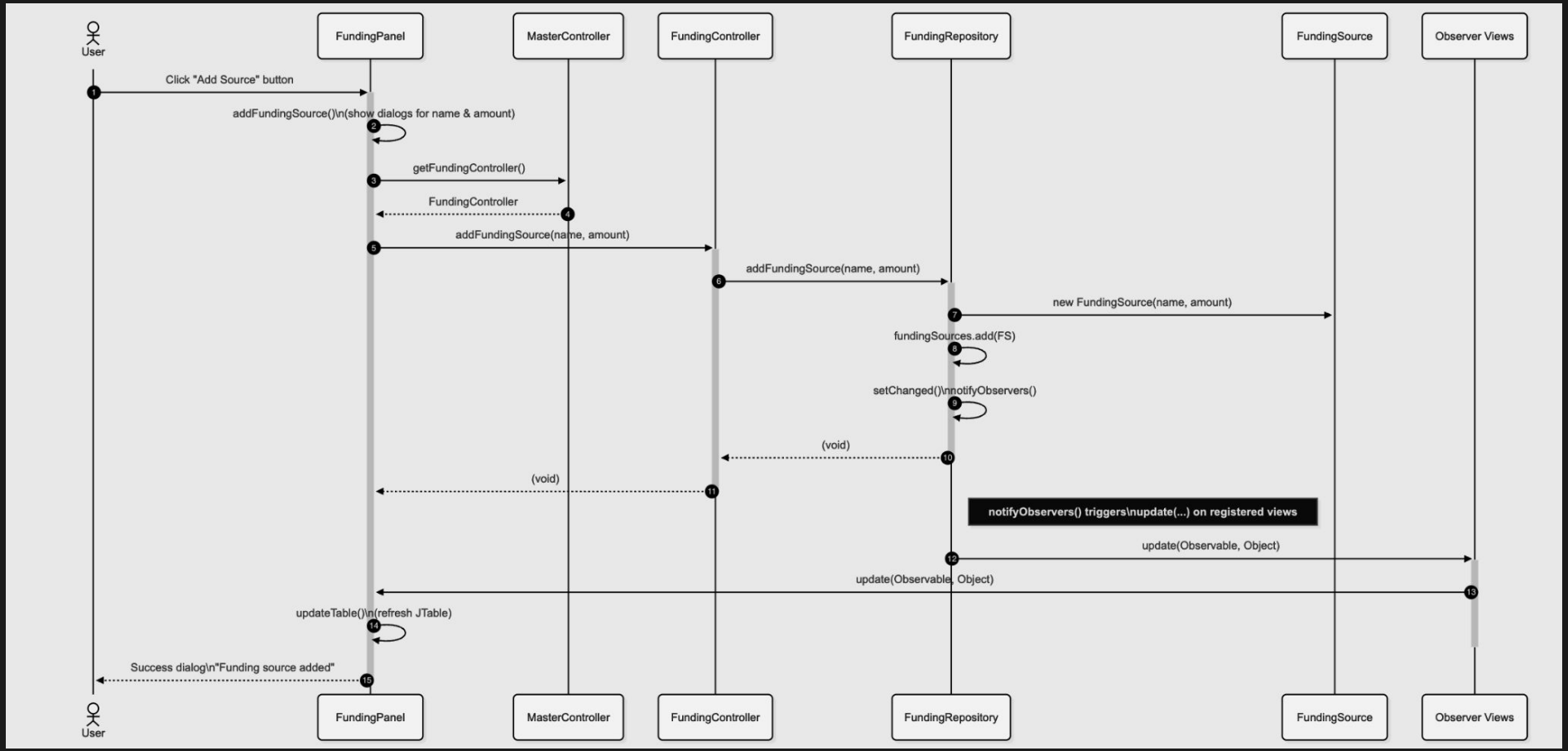


Controller + Model Relationship



Sequence Diagram Add Funding Source

*Observer Views = GUI or CLI classes



Live Demo

Load needs + funding from csv
Add new funding source
Allocate funding
Show updated gui response
Show ui persistence validation

- Open and launch app with maven commands
- Show needs and bundle page
  - Create a need/bundle
    - Could be as simple as (NEEDTEST / BUNDLETEST)
  - Edit a need (name or total cost)/bundle (quantity of a component)
  - Delete a need/bundle
- Move to funding page
  - Add a funding source (FUNDINGTEST or something)
- Move to ledger
  - Add a ledger entry (a need/bundle/funding source) to the point the threshold is exceeded
  - Change to a future date, and then set a daily threshold or something
- Show the summary that the threshold is exceeded
- Can show persistence with exiting and reentering the app upon savingto show it sticks

Challenges We Hit

- Ensuring CSV files matched the Specs
- GUI State Refresh
- Conflicts during integrations (model and controller expectations)
- Learning to work with Master Controller

Principles and patterns We Applied

Patterns

- Observer
  - Updating based on changes in model
- Repository Pattern
  - Storage modularity

Principles

- SRP
- Low Coupling / High Cohesion
  - Clear subsystem lines
- DRY
  - Shared Helper Methods

Improvements Going Forward to R3

- Refactor gui to have less “repetitive” looking code
- Improve UX
- Try as a web service with HTML display
- Users
  - Splitting Bills with people
  - Savings planning for kids educations
- Introduce repository interfaces for DIP

Lessons Learned

- Subsystem Boundaries Matter
- Good Diagrams Prevent Design Drift
- Communication Saves Hours
- MVC only works if used properly
- Integration days always take longer than expected
- Captioning Services are amazing and helped us so much

Q & A