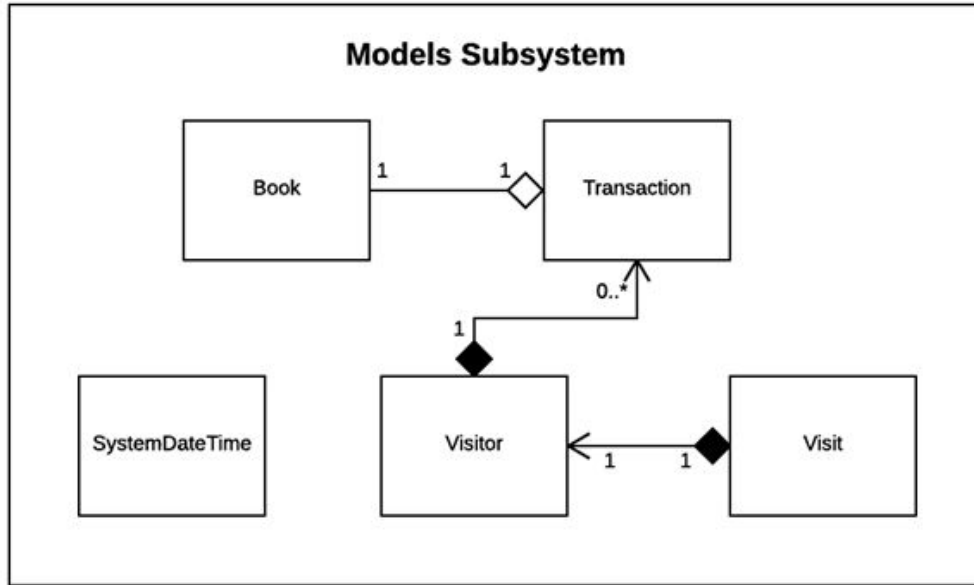


# Library Book Management System R1

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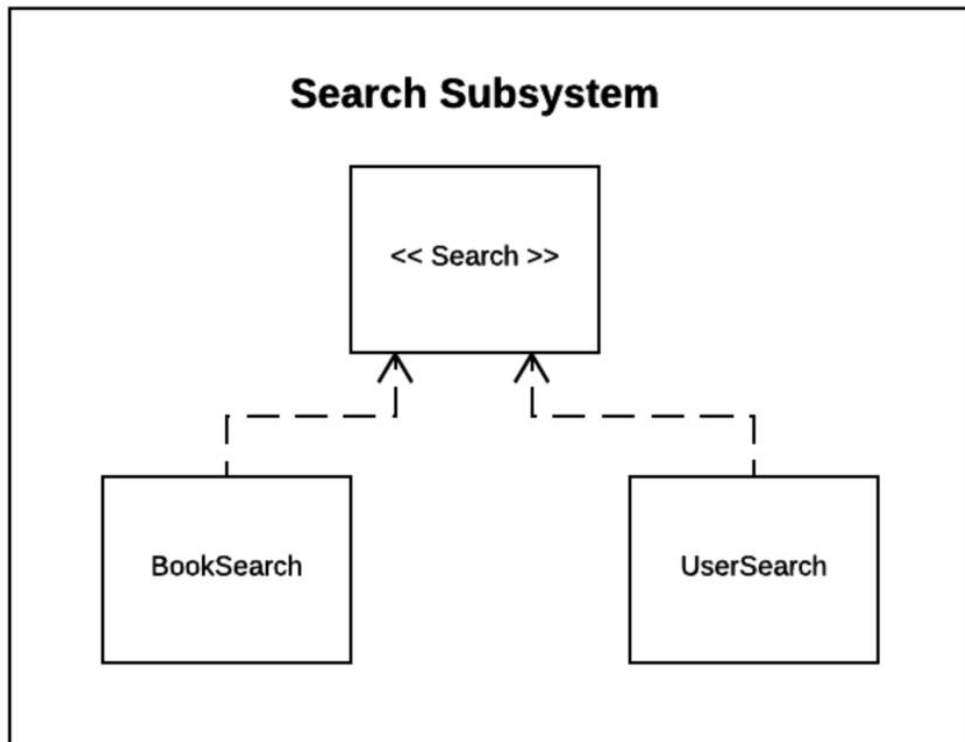
By Team B: Charles Barber, Edward Wong, Nicholas  
Feldman, Christopher Lim, Anthony Palumbo

# Singleton Pattern



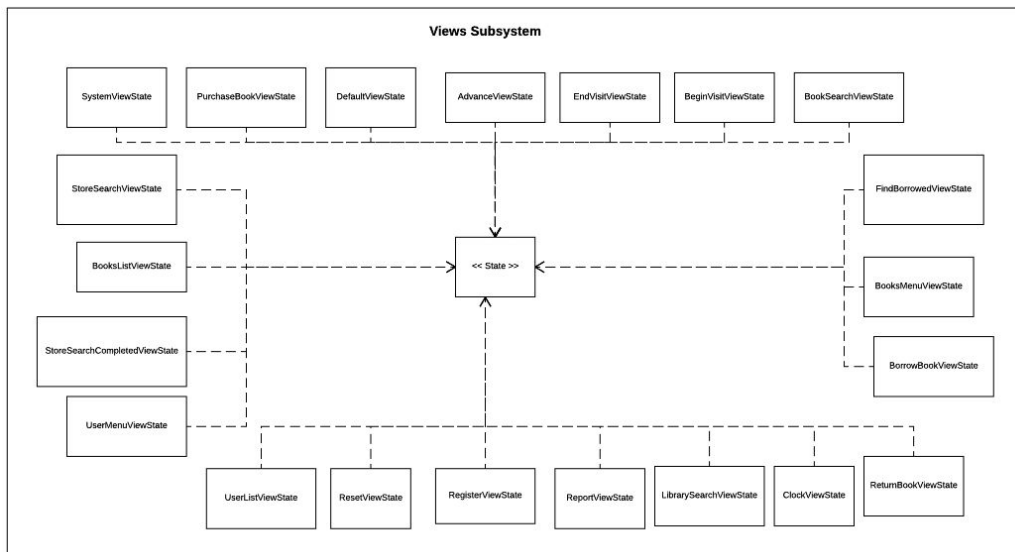
- SystemDateTime class
- Runs on a separate thread
- Only one instance since there can only be one clock

# Strategy Pattern



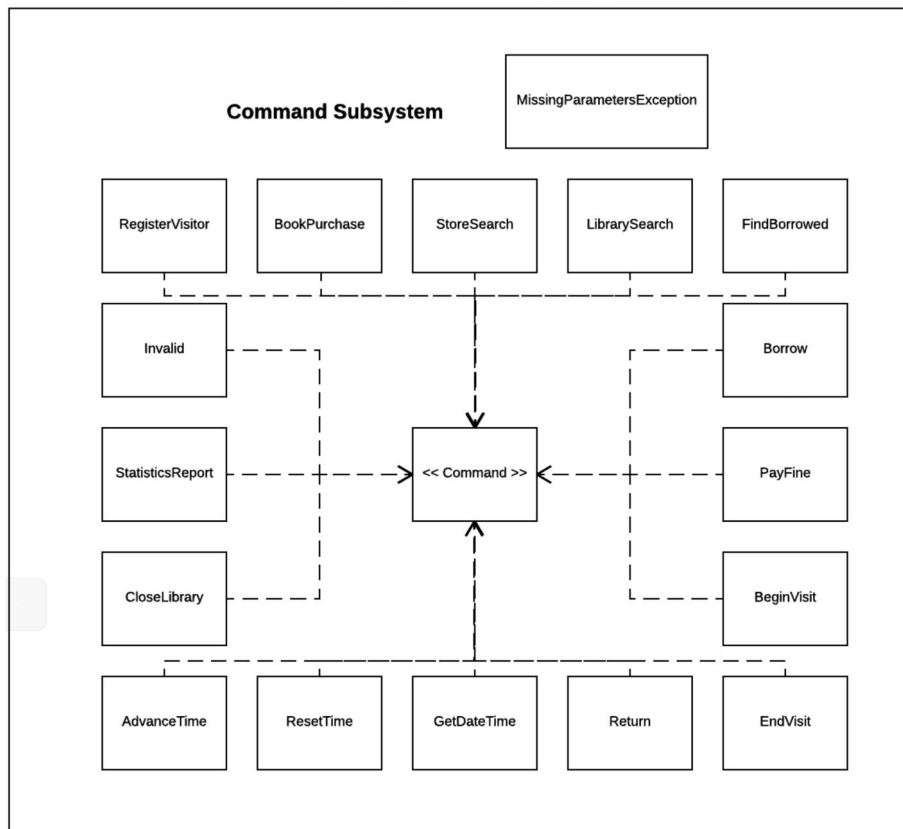
- Two methods in Search interface
- Search for different types of objects in different classes
- Uses Java enums to search for an object in different ways

# State Pattern



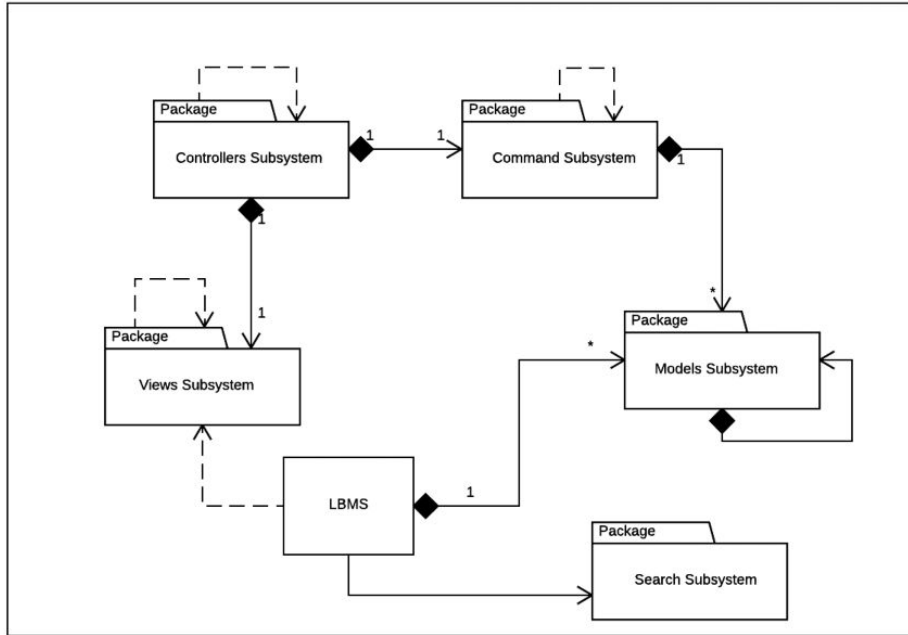
- One state at a time
- Init, onEnter, change, and default flush method
- Only certain actions can be done at any state
- Subclasses responsible for state transitions

# Command Pattern



- Allows application to perform several different actions
- execute and parseResponse
- All commands can be treated identically due to inheritance

# System Architecture



- LBMS main class along with 5 packages to organize the source code
- Reduced coupling for the system and high cohesion within packages
- Multithreading to separate the clock from the main system

# Difficulties Encountered

- Waiting until the last day to finish documentation
- Difficulties understanding Java enum and parallel streams
- Unavailability during spring break

# Strengths and Weaknesses of Design

- Low coupling and high cohesion
- Prepared for a GUI
- Separation of concerns with design
- Lots of classes
- Minor bugs in the system