System Design Document

MyStudyGroupPlanner

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MyStudyGroupPlanner
System design document

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1. Introduction

1.1 Purpose of this document

The purpose of this document is to describe the design of the MyStudyGroupPlanner application. Key topics covered in this document include the high level system architecture, low level class design, and the persistent data design of MyStudyGroupPlanner.

1.2 References

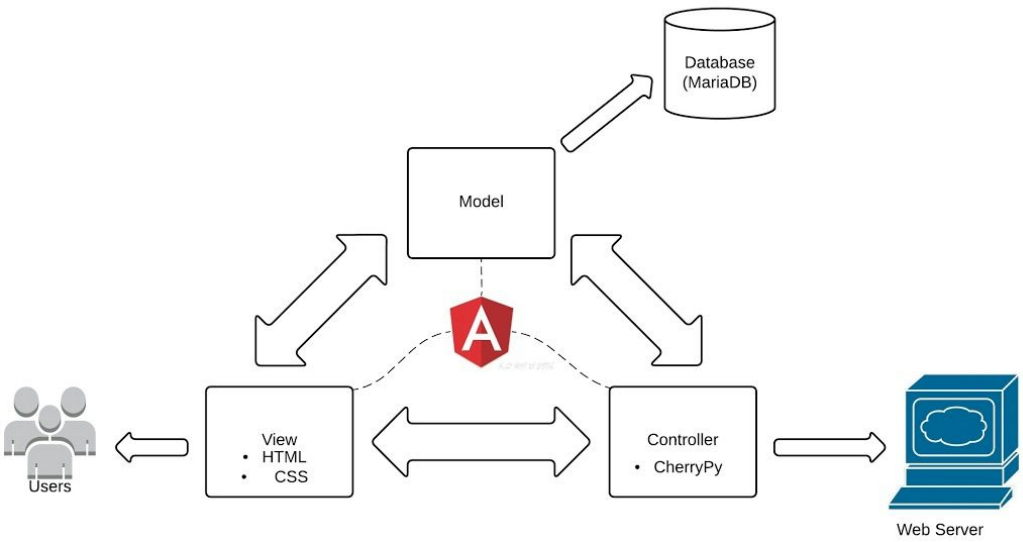
Throughout this document, references will be made to:

1. MyStudyGroupPlanner System Requirements Specification Document
2. https://docs.angularjs.org/guide/introduction
3. http://www.cherrypy.org/
4. http://getbootstrap.com/
5. LucidChart.com

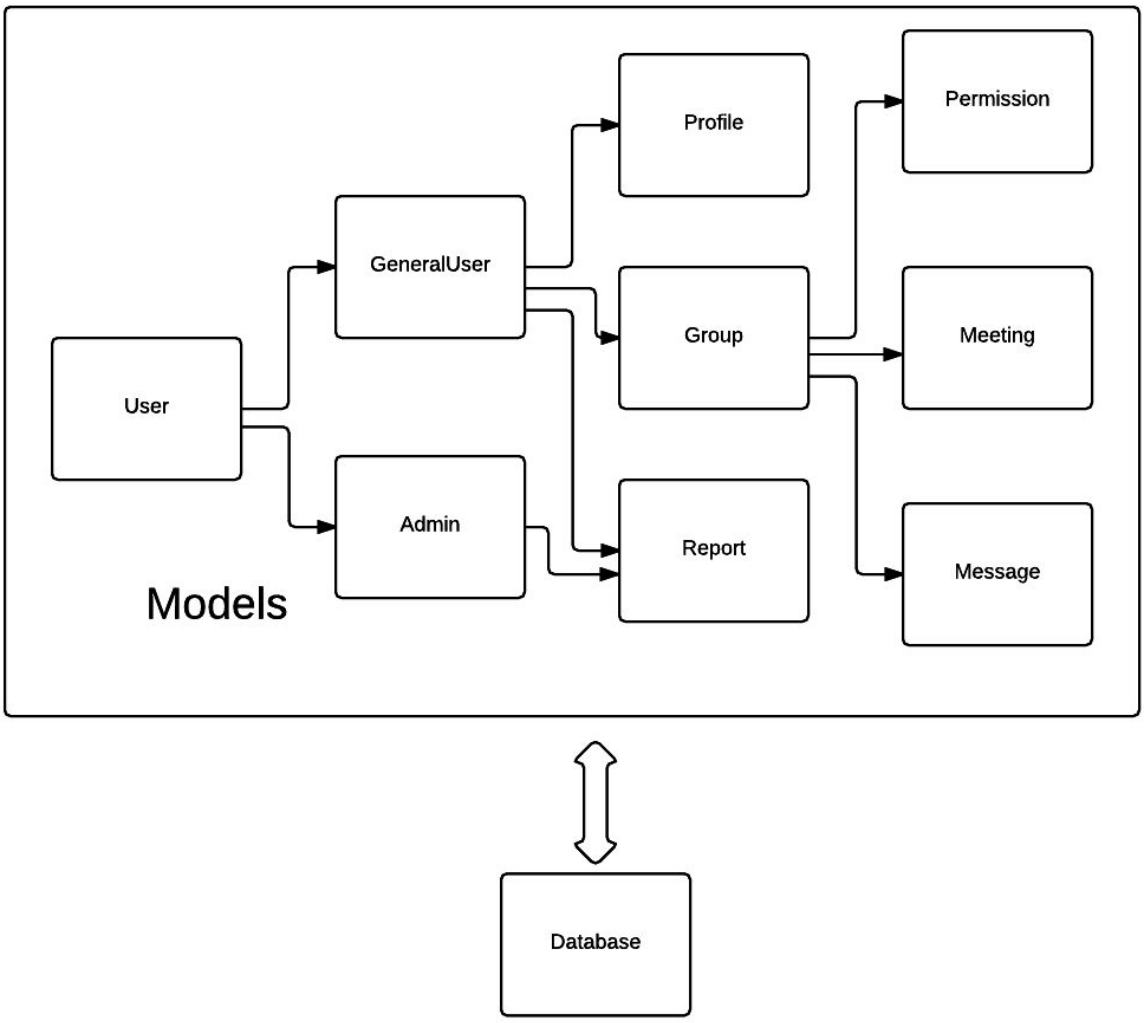
2. System Architecture

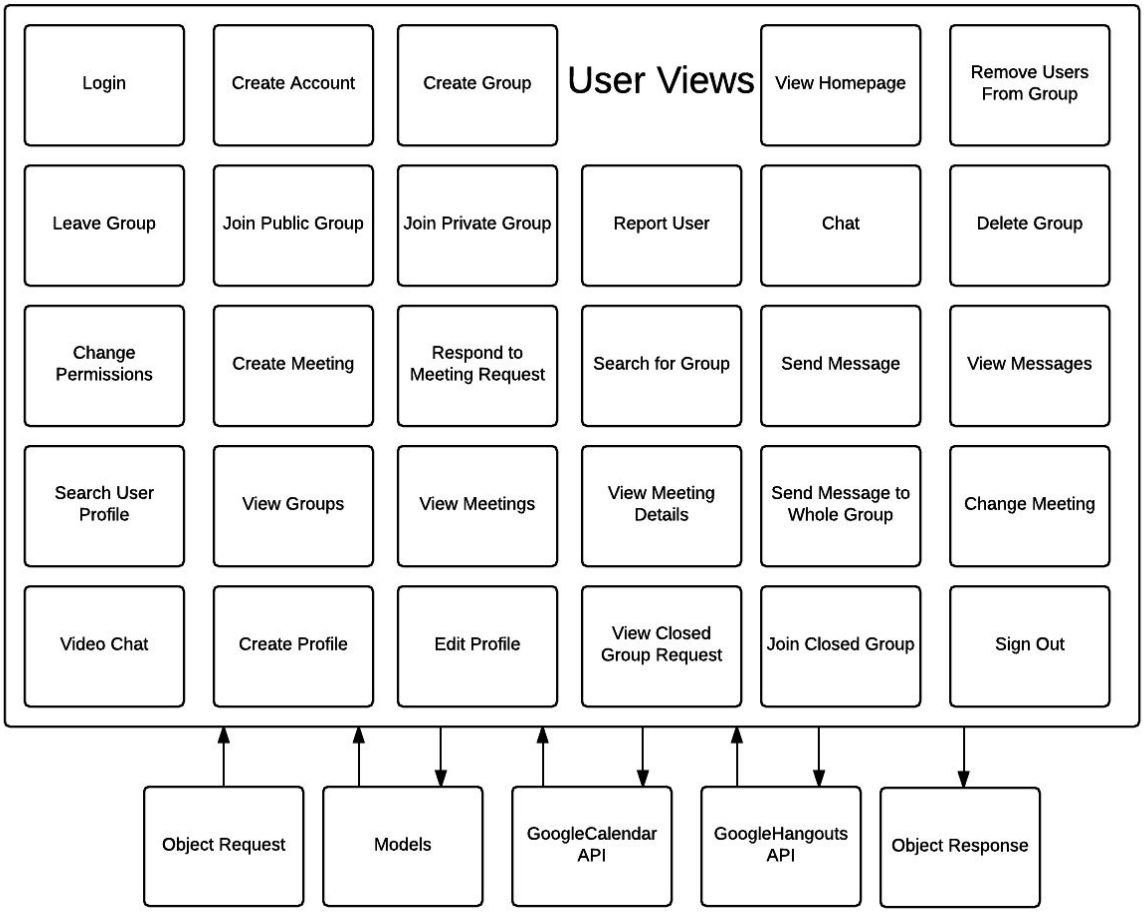
2.1 Architectural Design

The MyStudyGroupPlanner application's structural framework will be created using AngularJS, which uses a Model-View-Controller (MVC) architectural model. The application will be implemented using CherryPy, which provides an object-oriented web framework that uses the Python language. We may also use Bootstrap to develop the application so that it can be easily used on mobile phones. The database used in this application will be managed using MariaDB.



2.2 Decomposition Description

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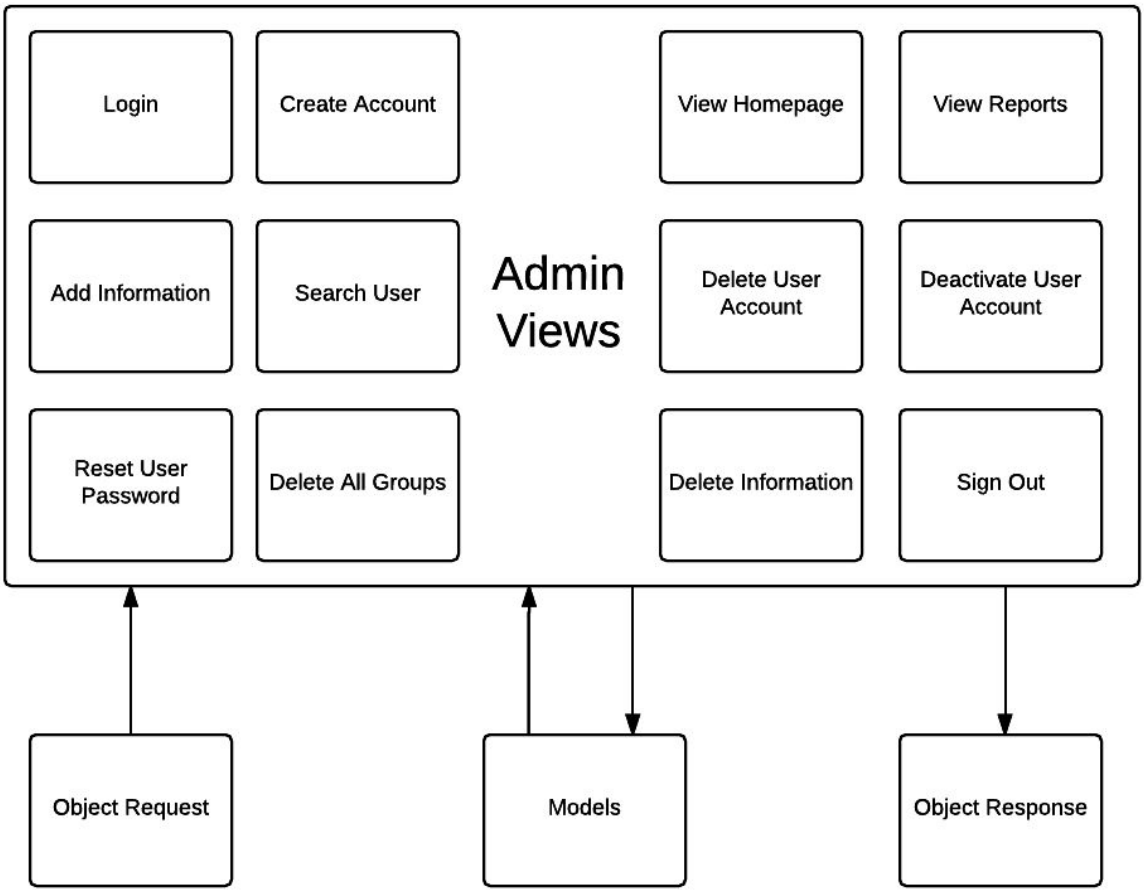
Create Account
Create Group
User Views
View Homepage
Remove Users From Group
Leave Group
Join Public Group
Join Private Group
Report User
Chat
Delete Group
Change Permissions
Create Meeting
Respond to Meeting Request
Search for Group
Send Message
View Messages
Search User Profile
View Groups
View Meetings
View Meeting Details
Send Message to Whole Group
Change Meeting
Video Chat
Create Profile
Edit Profile
View Closed Group Request
Join Closed Group
Sign Out
Object Request
Models
GoogleCalendar API
GoogleHangouts API
Object Response



3. Persistent Data Design

All application data will be kept in a MariaDB database called MSGP. We will be using the CherryPy Python web framework to create the database. The database will store data about each user and admin, group information, permissions, and the data of each notification and report created.

User

ID
Email
Password
FirstName
LastName
DisplayName

Admin

ID
Email
Password
FirstName
LastName

Profile

ID
User
UserDisplayName
UserClasses
UserBiography

Group

ID
Subject
ClassName
Section
GroupOwner
MemberCount
TotalMembersAllowed
Access

Permission

ID
User
Group
CloseGroup
SetPermission
Invite
ScheduleMeeting
Messaging

Meeting

ID
Building
Room
TimeStart
TimeEnd
StartDate
EndDate
UsersAttending

Notification

ID
UserTo
UserFrom
Title
Message

Report

ID
User
Type
ReportingUser
Message

Building

ID
Name
Rooms

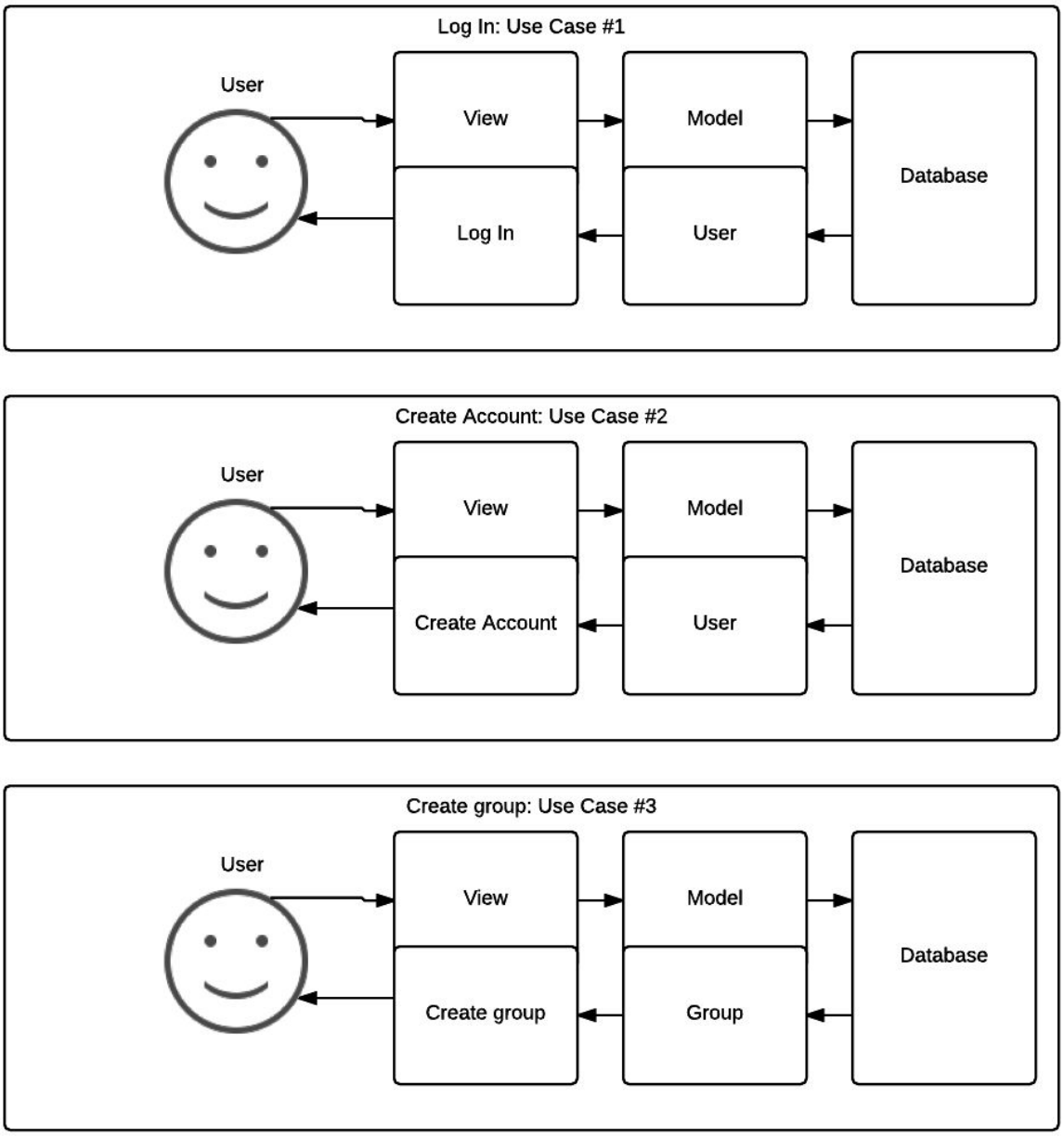
Room

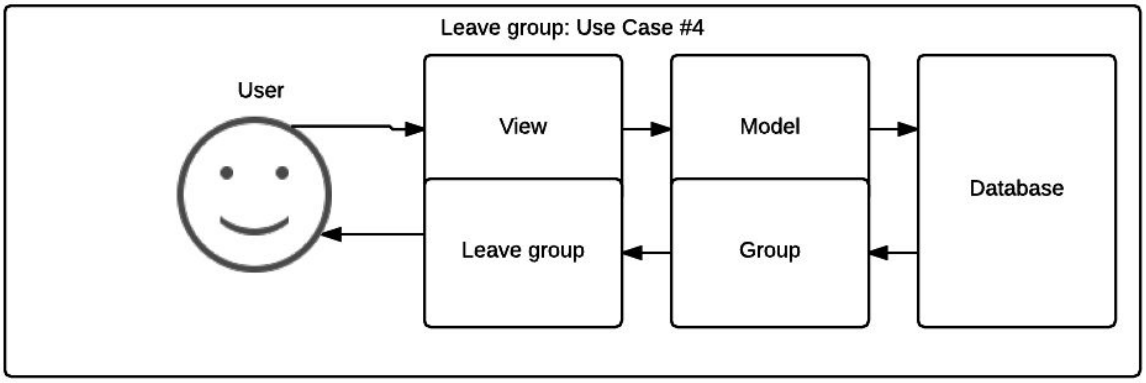
ID
Name
Number
HoursAvailable
DaysAvailable

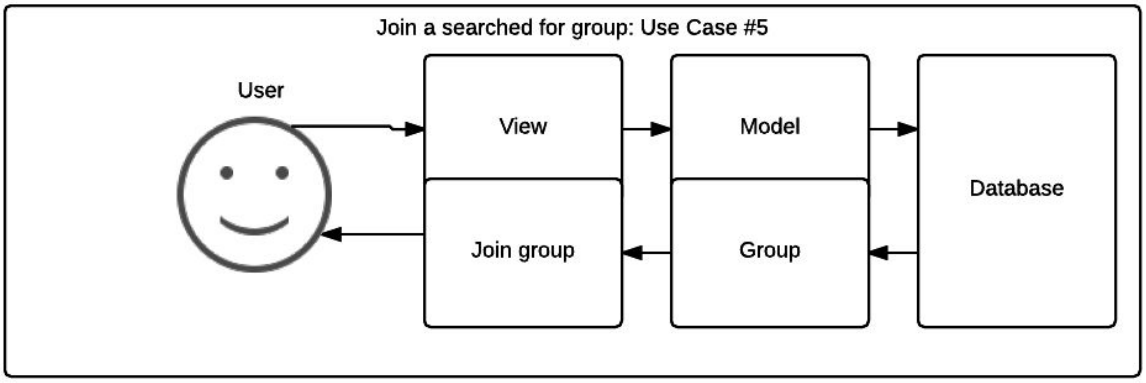
4. Requirements Matrix

Please refer to the System Requirements Specification for details regarding the corresponding use cases

MyStudyGroupPlanner Requirements Matrix




Leave group: Use Case #4
User
View
Model
Database
Leave group
Group


Join a searched for group: Use Case #5
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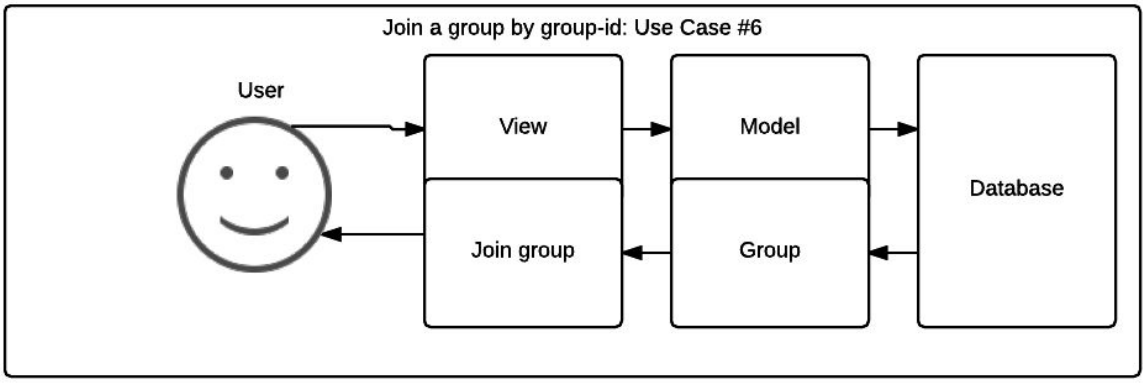
View
Model
Database
Join group
Group


Join a group by group-id: Use Case #6
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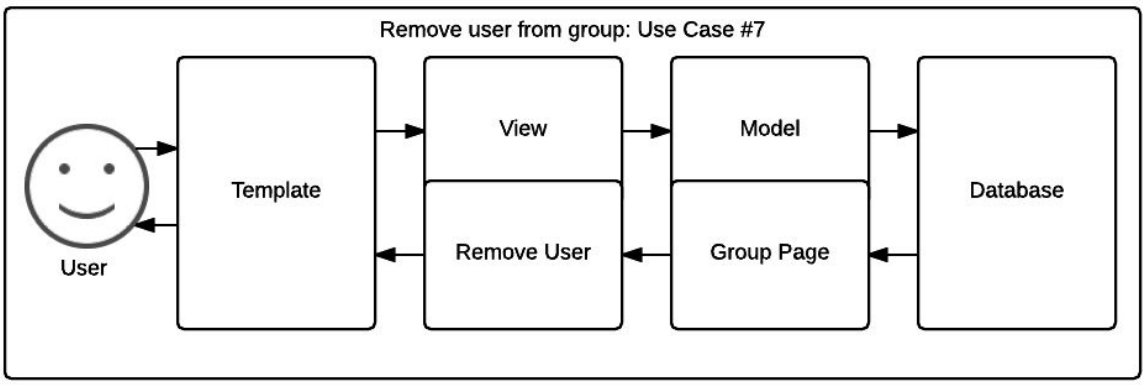
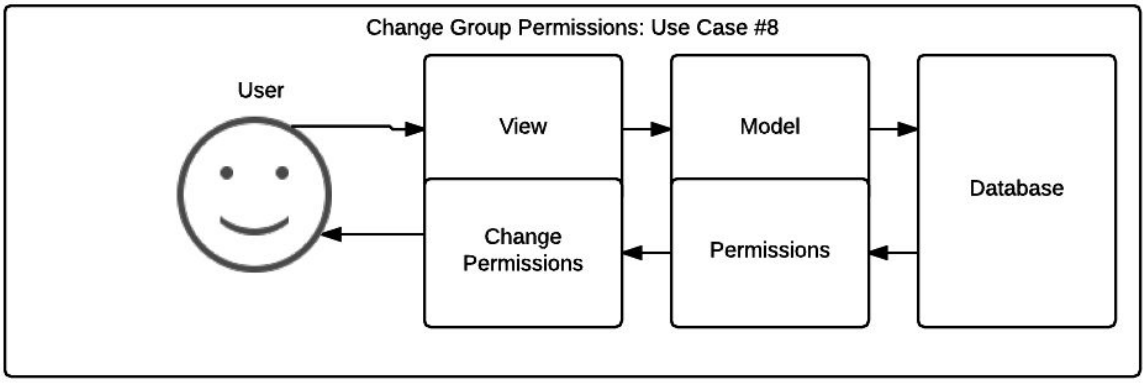
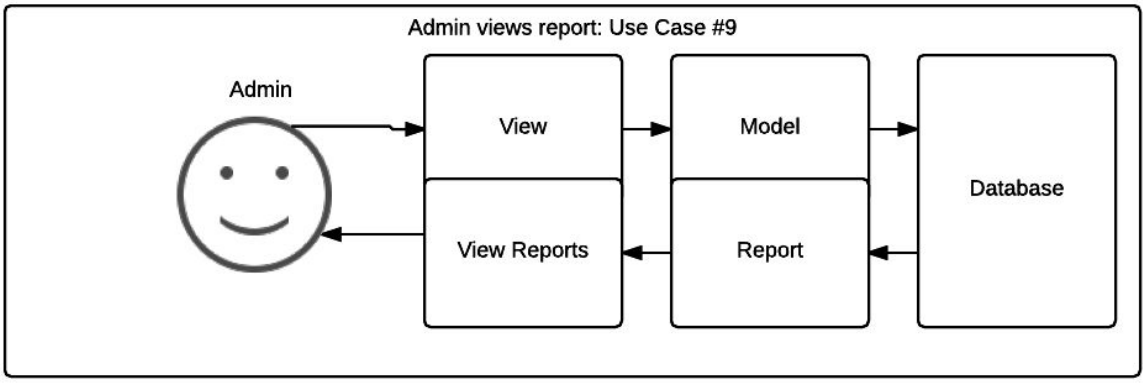
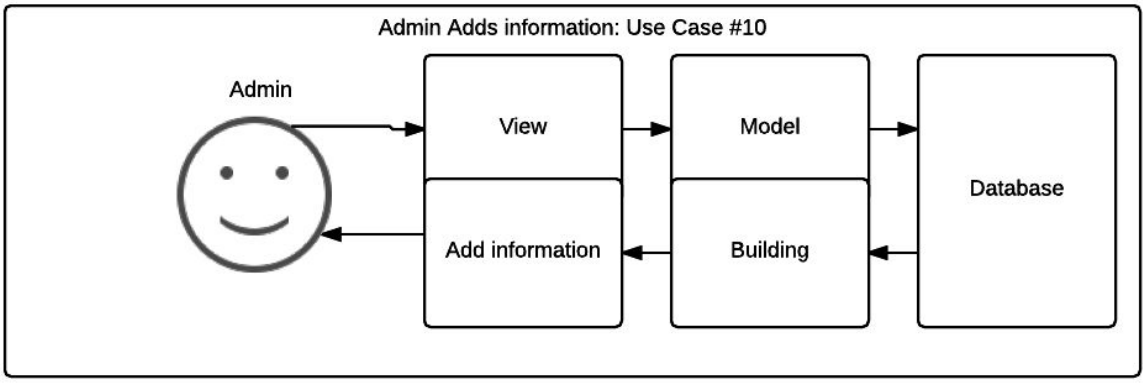
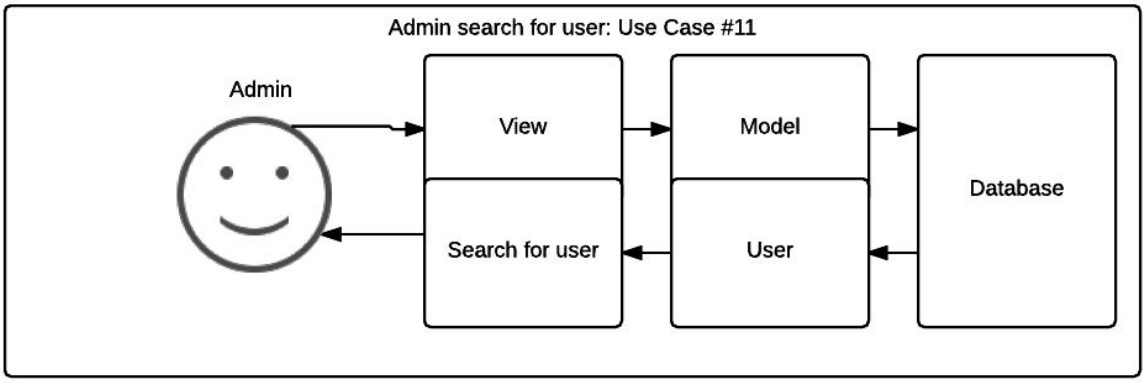
View
Model
Database
Join group
Group

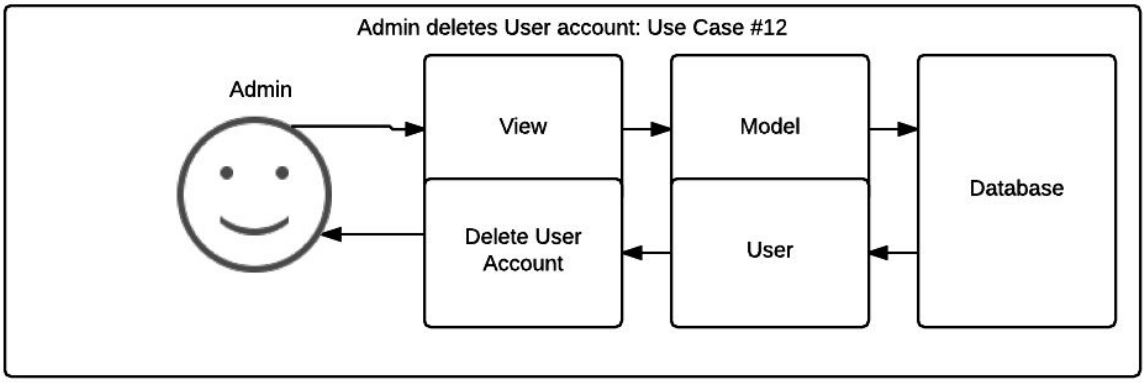

Remove user from group: Use Case #7
Template
View
Model
Database
User
Remove User
Group Page

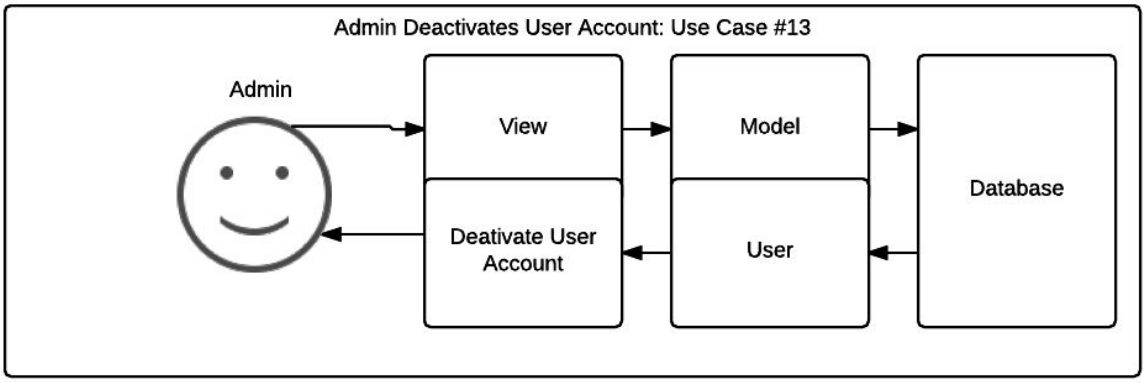

Change Group Permissions: Use Case #8
User
View
Model
Database
Change Permissions
Permissions


Admin views report: Use Case #9
Admin
View
Model
Database
View Reports
Report


Admin Adds information: Use Case #10
Admin
View
Model
Database
Add information
Building


Admin search for user: Use Case #11
Admin
View
Model
Database
Search for user
User


Admin deletes User account: Use Case #12
Admin
View
Model
Database
Delete User Account
User


Admin Deactivates User Account: Use Case #13
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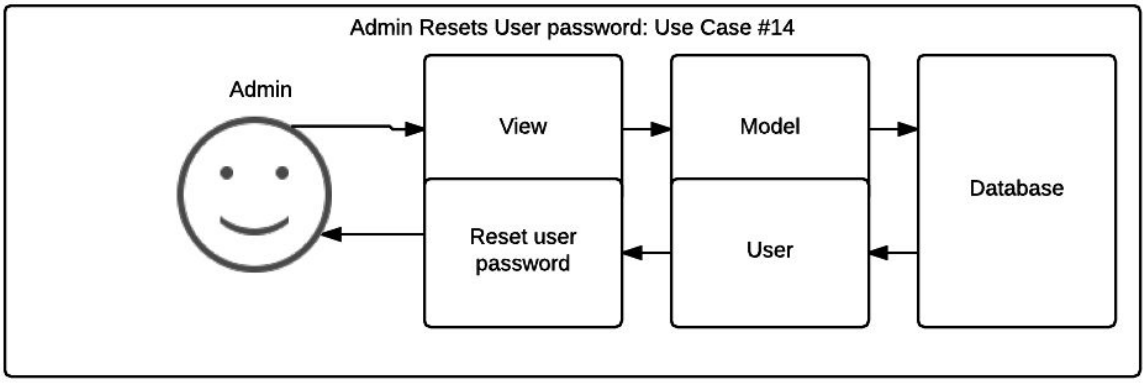
View
Model
Database
Deativate User Account
User


Admin Resets User password: Use Case #14
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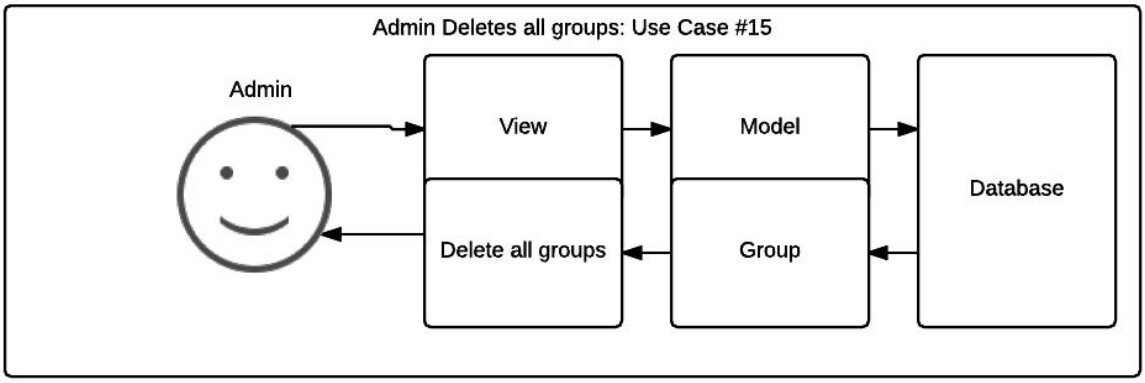
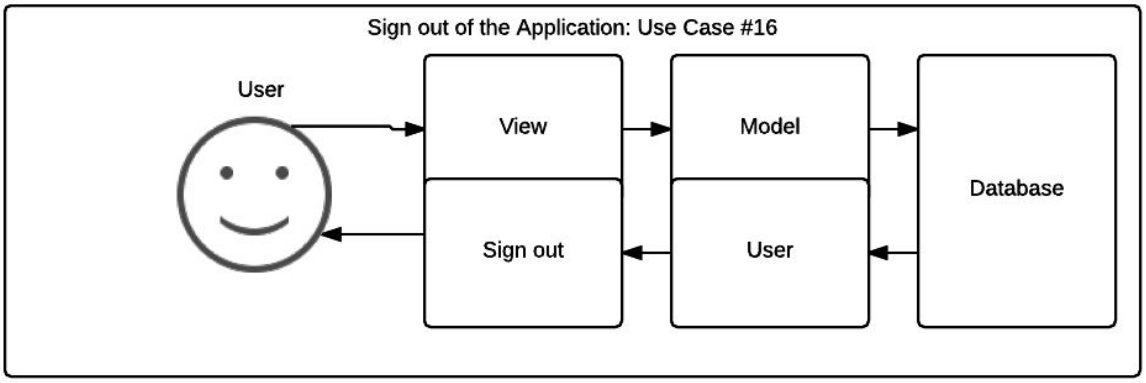
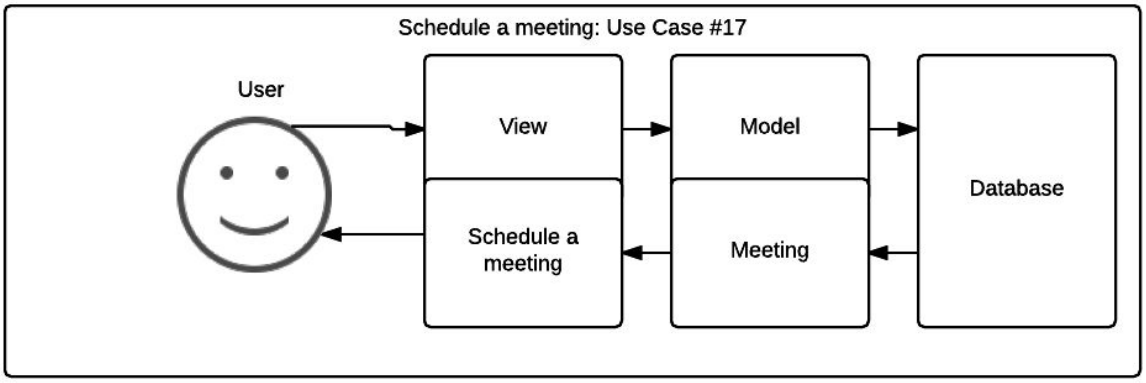
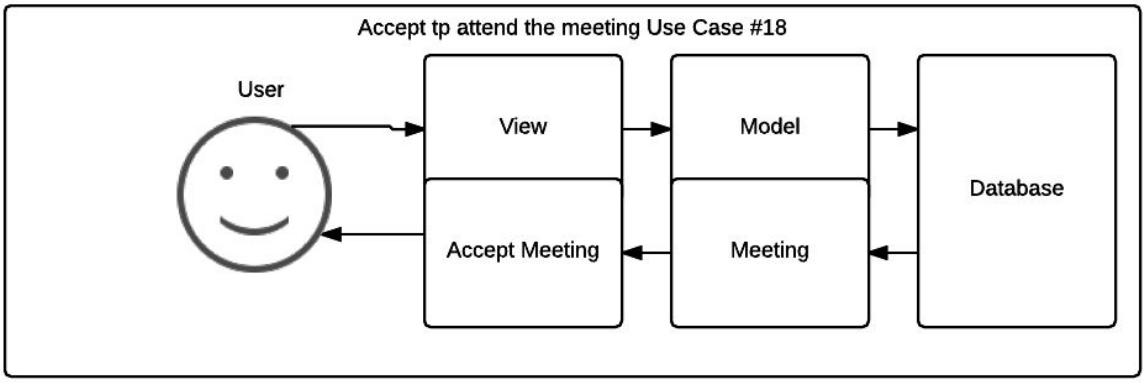
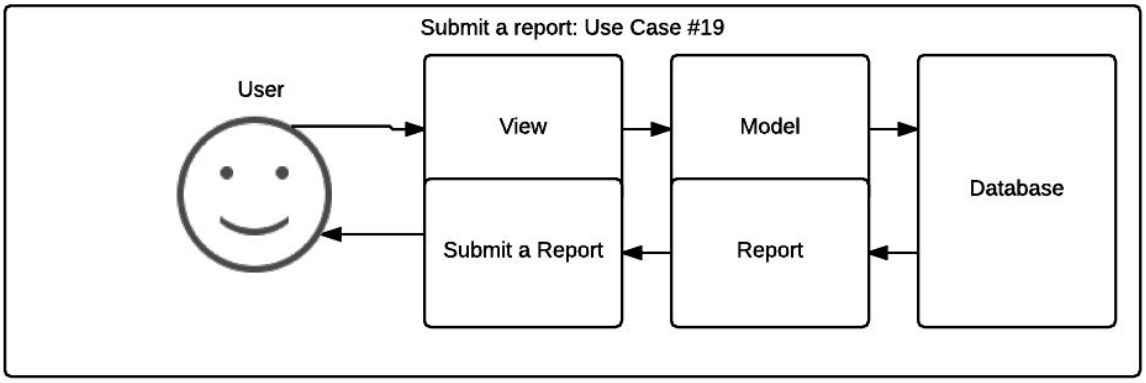
View
Model
Database
Reset user password
User

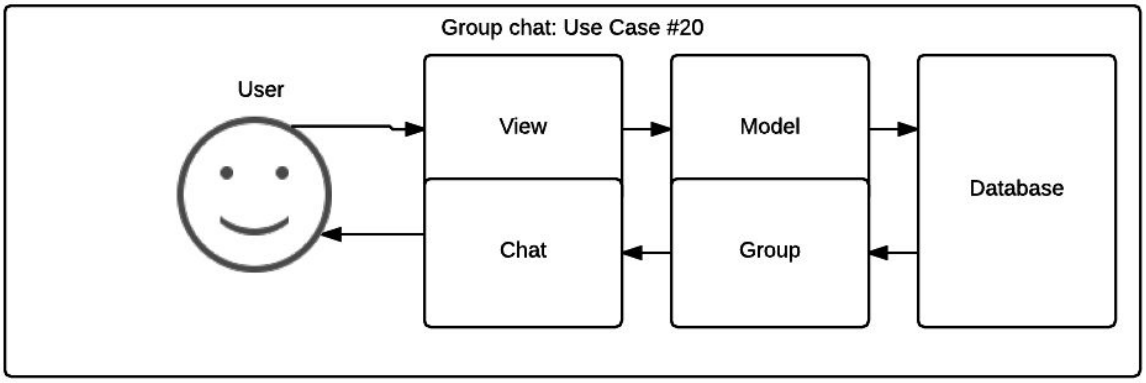

Admin Deletes all groups: Use Case #15
Admin
View
Model
Database
Delete all groups
Group

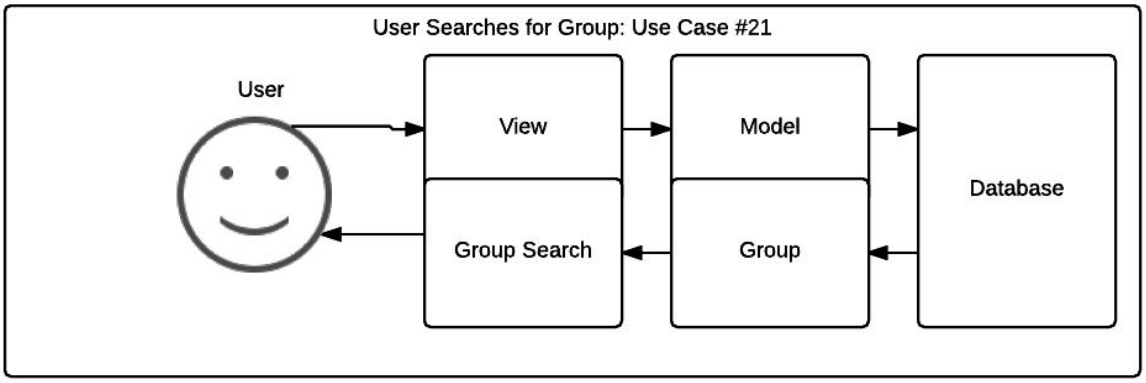

Sign out of the Application: Use Case #16
User
View
Model
Database
Sign out
User

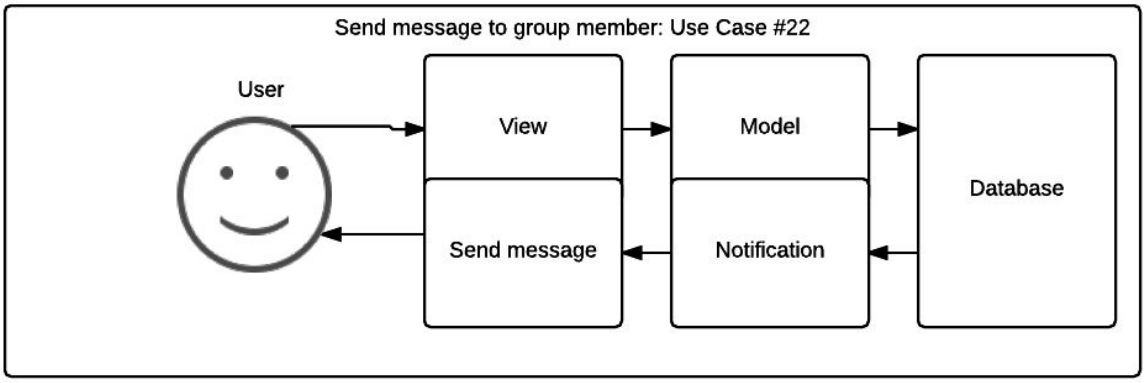

Schedule a meeting: Use Case #17
User
View
Model
Database
Schedule a meeting
Meeting

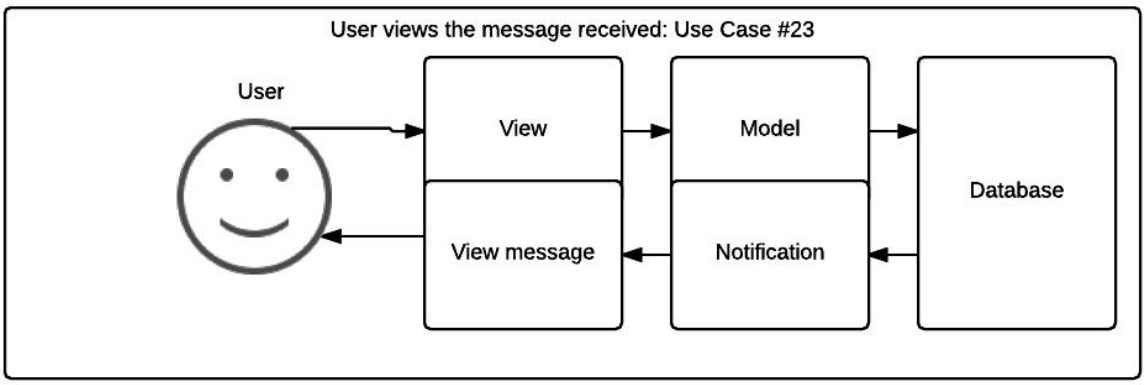

Accept tp attend the meeting Use Case #18
User
View
Model
Database
Accept Meeting
Meeting

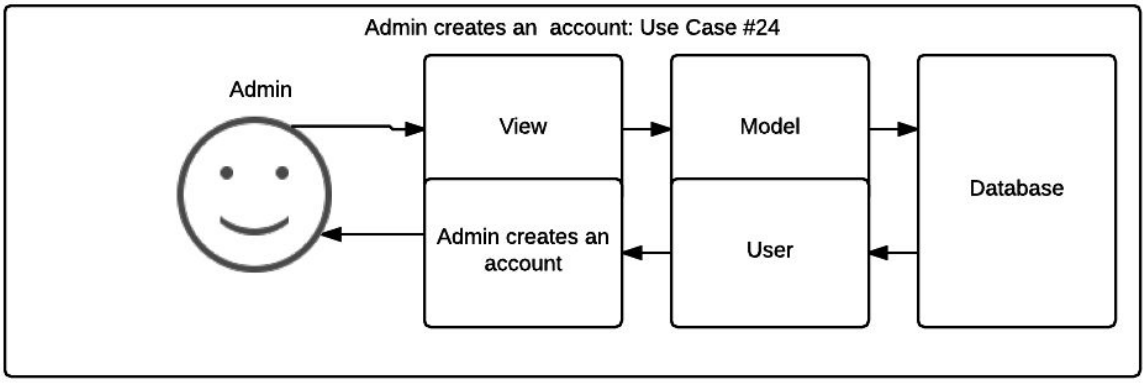

Submit a report: Use Case #19
User
View
Model
Database
Submit a Report
Report

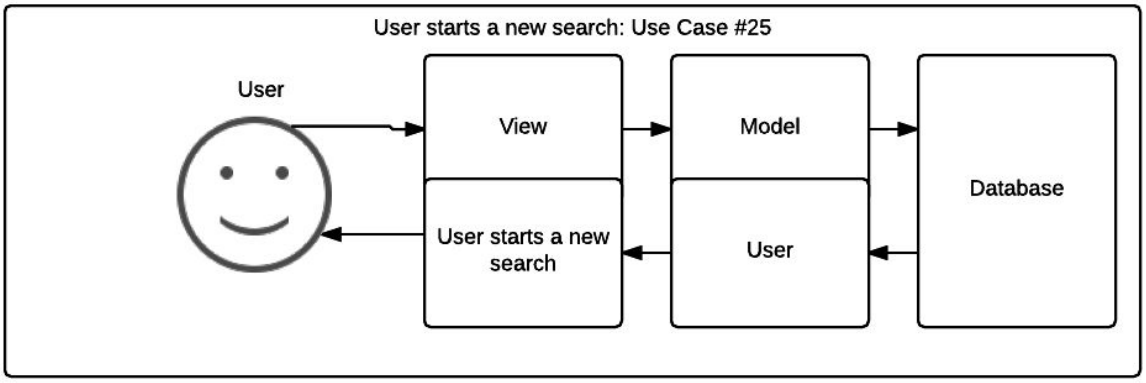

Group chat: Use Case #20
User
View
Model
Database
Chat
Group

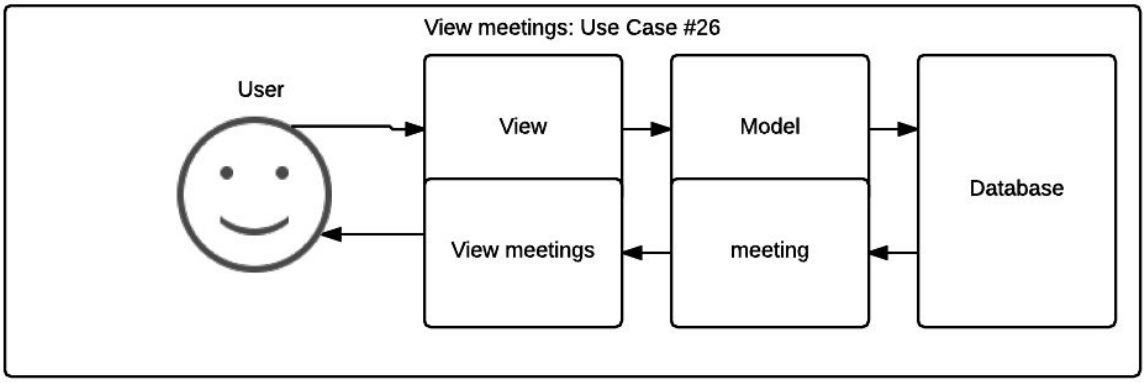

User Searches for Group: Use Case #21
User
View
Model
Database
Group Search
Group

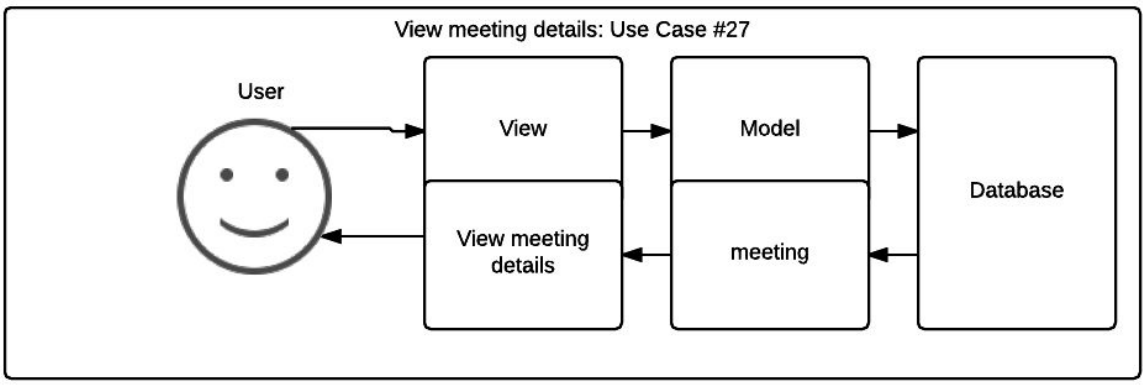

Send message to group member: Use Case #22
User
View
Model
Database
Send message
Notification

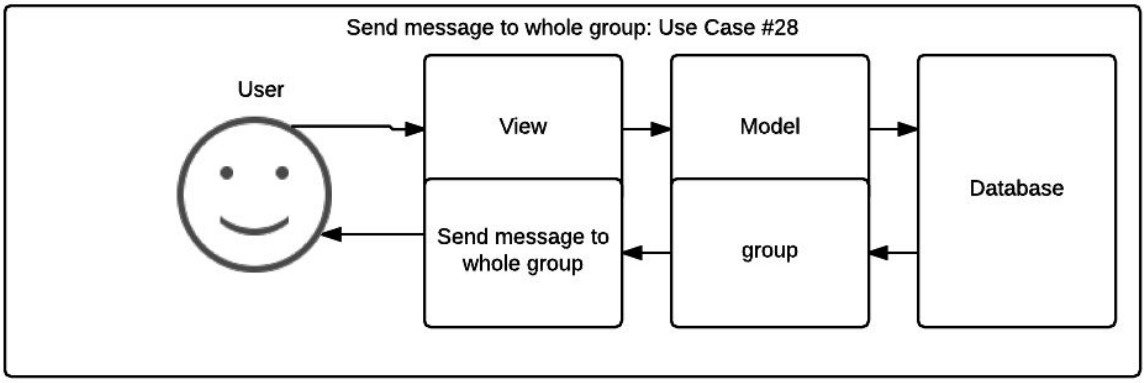

User views the message received: Use Case #23
User
View
Model
Database
View message
Notification

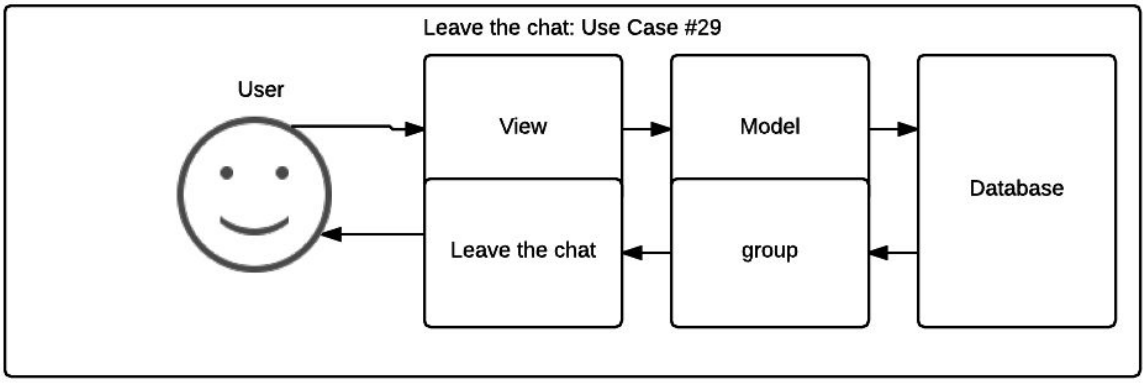

Admin creates an account: Use Case #24
Admin
View
Model
Database
Admin creates an account
User

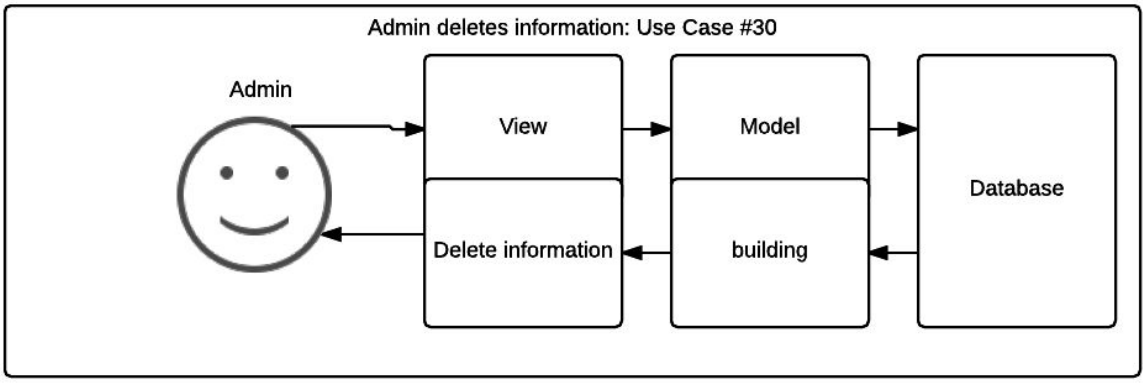

User starts a new search: Use Case #25
User
View
Model
Database
User starts a new search
User

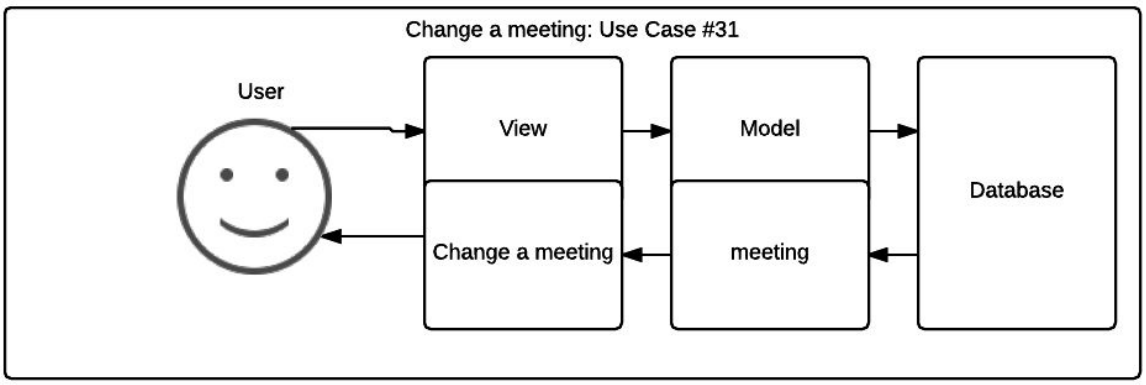

View meetings: Use Case #26
User
View
Model
Database
View meetings
meeting

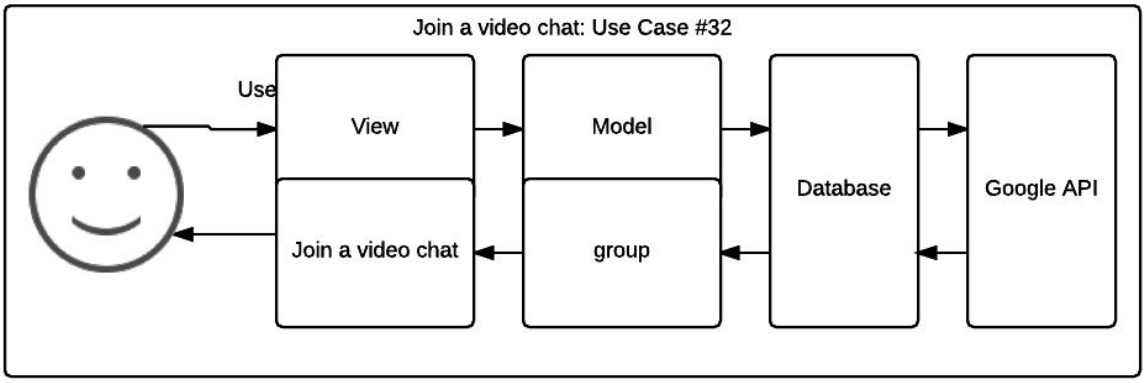

View meeting details: Use Case #27
User
View
Model
Database
View meeting details
meeting

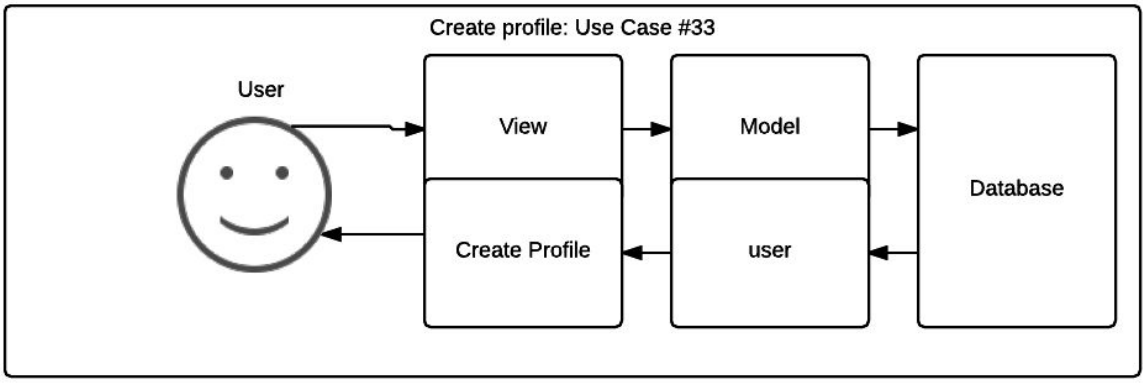

Send message to whole group: Use Case #28
User
View
Model
Database
Send message to whole group
group

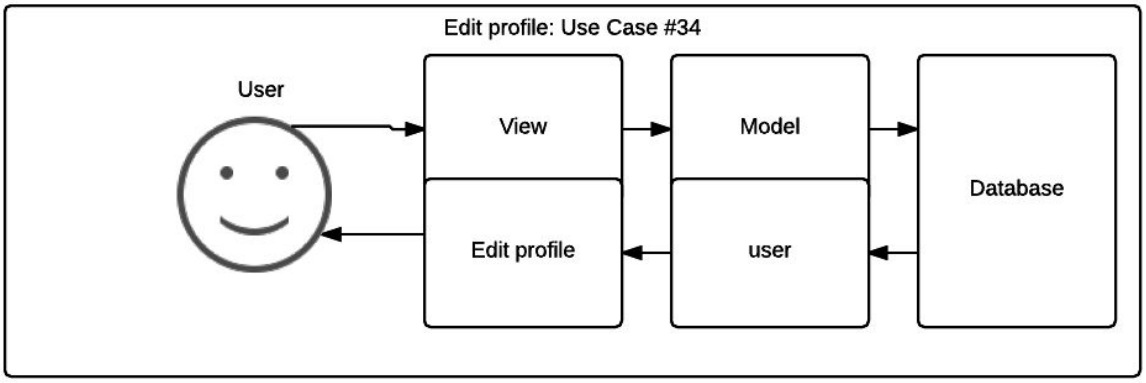

Leave the chat: Use Case #29
User
View
Model
Database
Leave the chat
group

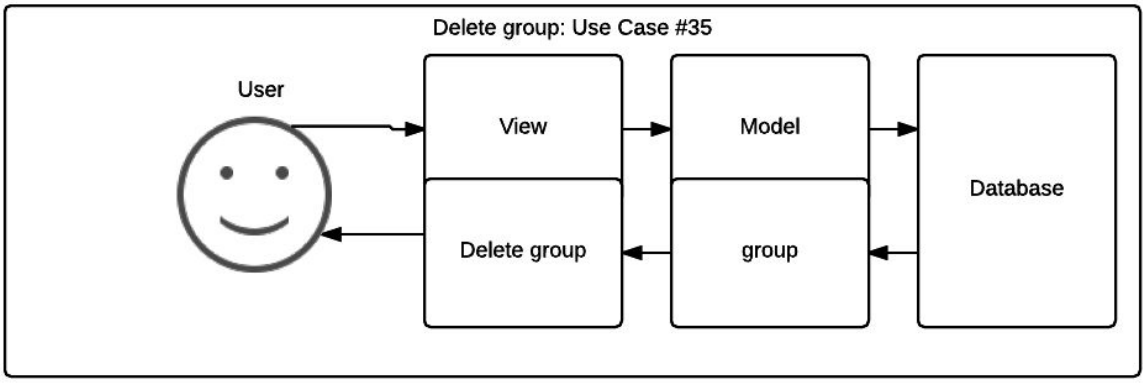

Admin deletes information: Use Case #30
Admin
View
Model
Database
Delete information
building

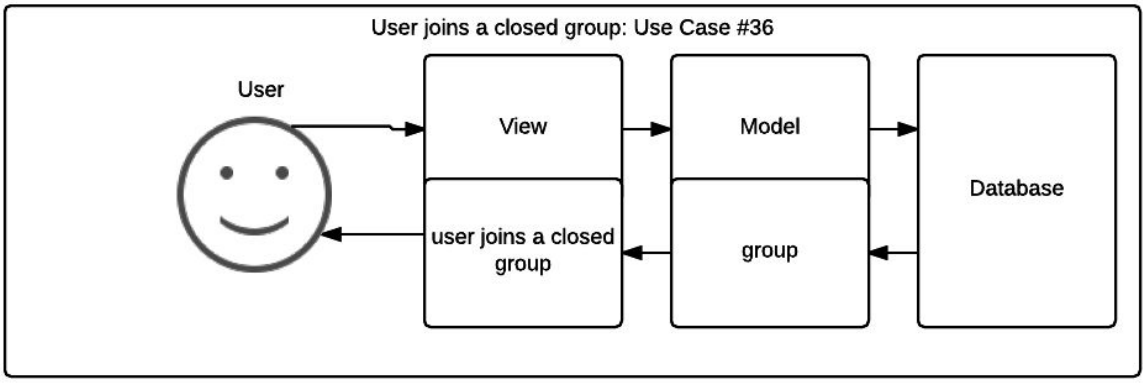

Change a meeting: Use Case #31
User
View
Model
Database
Change a meeting
meeting

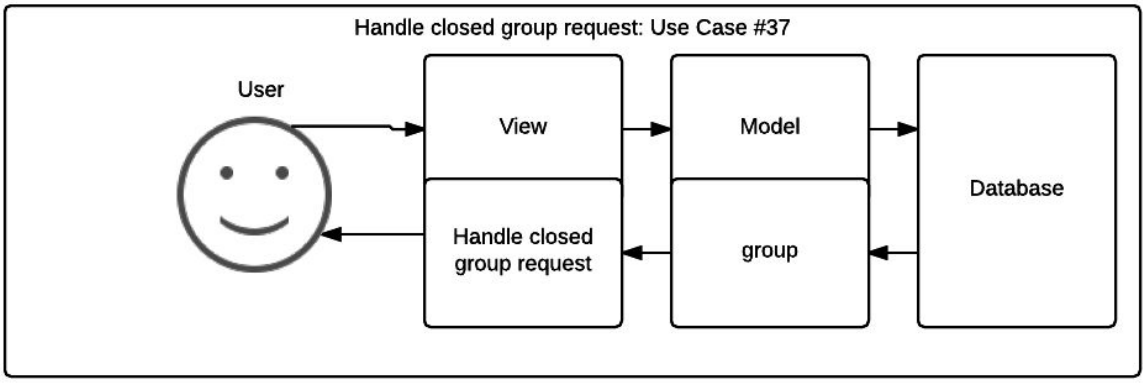

Join a video chat: Use Case #32
Use
View
Model
Database
Google API
Join a video chat
group


Create profile: Use Case #33
User
View
Model
Database
Create Profile
user


Edit profile: Use Case #34
User
View
Model
Database
Edit profile
user


Delete group: Use Case #35
User
View
Model
Database
Delete group
group





5. Appendix A - Agreement Between Customer and Contractor

6. Appendix B - Team Review Sign-off

7. Appendix C - Document Contributions

- **Group**
  - **Discussed and drew the diagrams of the Architectural Design and the Models by hand**
- **Tyler Campbell**
  - **Section 1: Introduction Section**
  - **Section 4: requirements matrix**
- **Aparna Kaliappan**
  - **Section 2.2: Decomposition Description diagrams of the Models, User Views, and Admin Views**
- **Sean Murren**

    - **Section 3: Persistent Data Design**
- **Ying Zhang**
    - **Architectural Diagram**
- **Siqi Lin**
    - **None**