Project Design

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1 Project Detailed Description

1.1 Detailed Description

Office Supplies Management System is a web application that helps users to get the items they need in the office and also keeps tracks of all the items requested.

1.1.1 User Login

There are three different kinds of users in the system: Administrator, Manager, and Employee. When user tries to login, the system will check the user's credential. If the user is not valid, the system will stay on the login page, otherwise, the system will provide different homepages to different users. Administrator has all the privileges, and can see everything and do all the operations in the system; Manager can see his own and employees' information, and can approve or reject any application from his employees of his department, and can also search for items he needs; Employee can only see his own information and can search and apply for a needed item.

1.1.2 Department

Employees belong to different departments, and one employee can only belong to one department. Each department has a manager. Managers are responsible for the applications from their departments.

1.1.3 Search Items

All employees(including manager) can search the items they need in the system. If no such items in the stock, the system will list some related choices from Amazon automatically. If the search results in the stock fail the user's needs, the user can choose to get more choices from Amazon through the system.

1.1.4 Apply for items

When the employee finds the ideal item(s), he can apply for the approval from their manager to get the item(s). Later the employee can check whether his application is approved or rejected. Managers can file a request form and get the needed item(s).

1.1.5 Approve application

The manager checks the applications from his employees, and decides which to approve and which to reject. Once the manager approves an application, the required item will be sent to the employee, and the related details of the item will also be recorded.

1.1.6 User management

The system records the personal information of all users and the items they request. Administrator can add, delete, edit or search any other user and the related information; manager can only search and edit the employees from his department.

1.1.7 Stock management

The administrator can see the quantity of every type of item in the stock, if the items are not enough, he can decide to purchase different types of supplies.
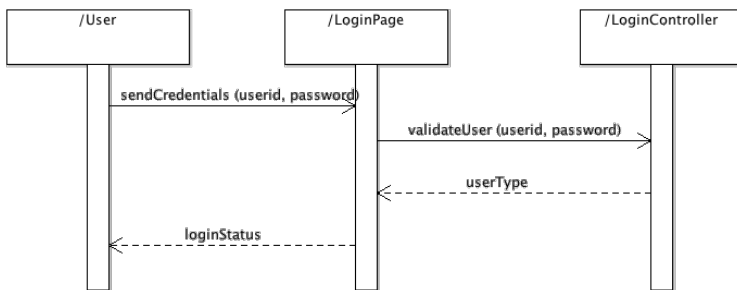
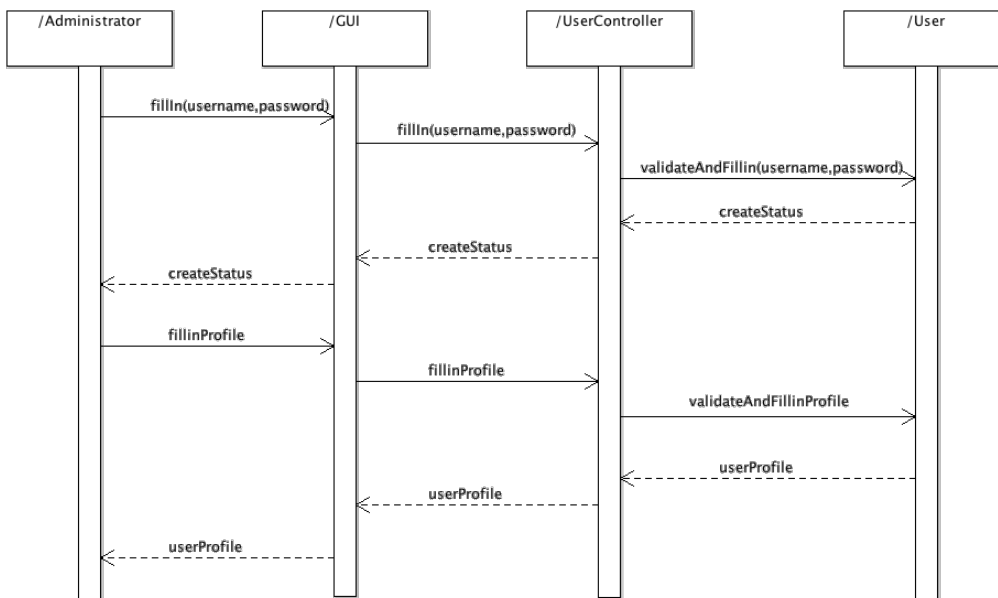## 1.2   Component Relationship Diagram
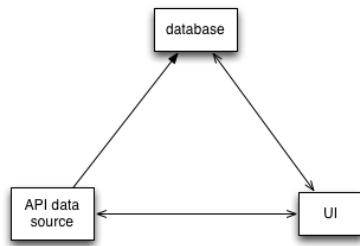
- UI can display data in the database, and can operate the data in the database.

- Database can store the data from API data source.

- UI can search data in the API data source, and display data from API data source.
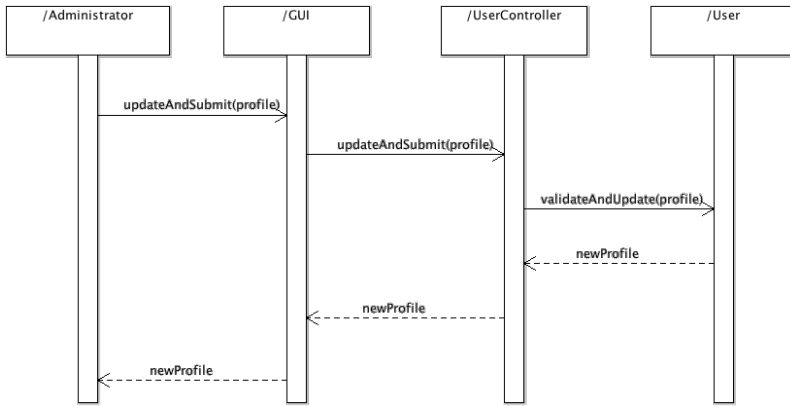
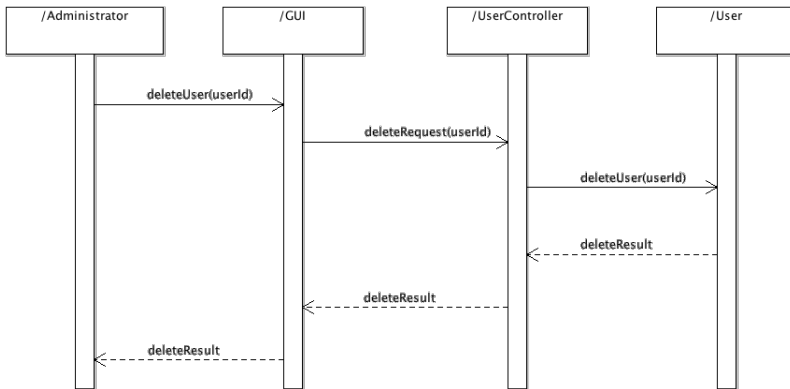## 1.3   Use Sequence Diagrams

1.3.1   User Login
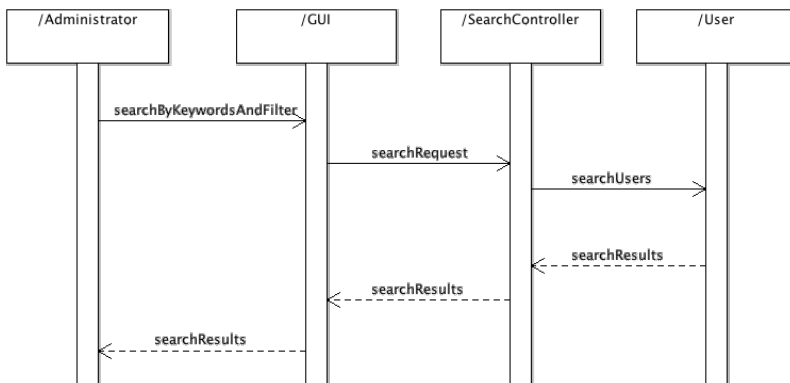

1.3.2   Create New User
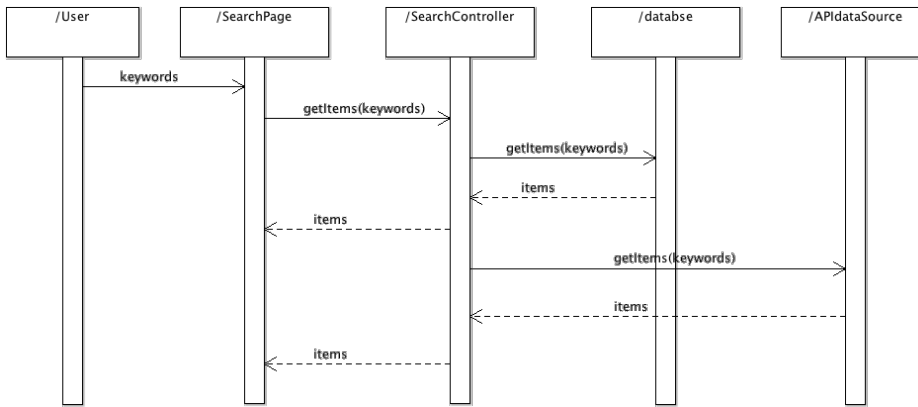
1.3.3 Change User Profile
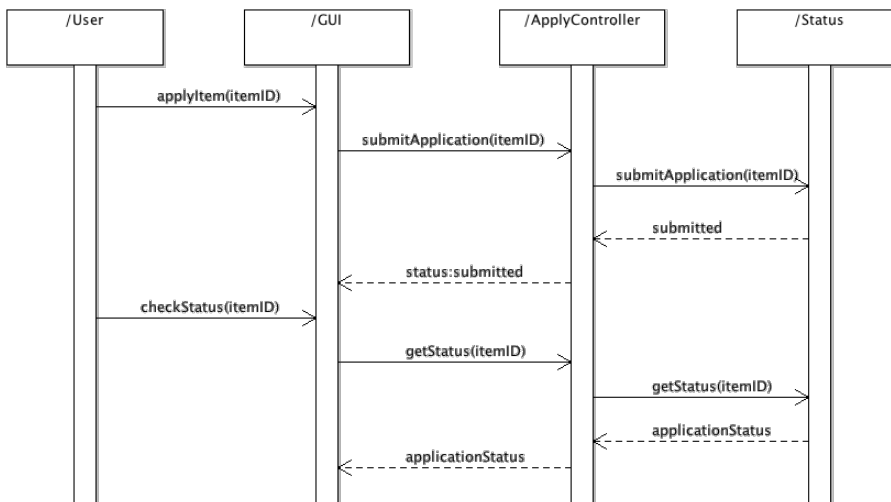
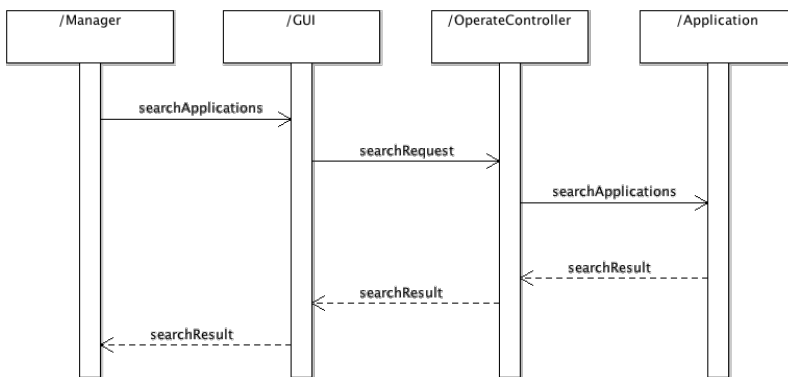

1.3.4 Delete User

1.3.5 Search User
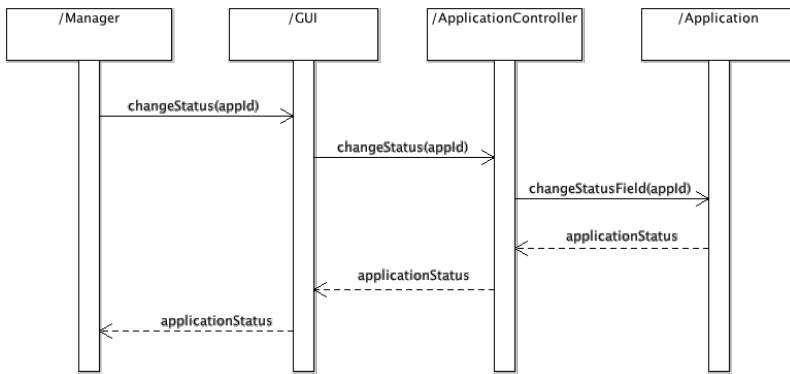
1.3.6   Search Items

1.3.7   Apply for Items

1.3.8   List All Applications

1.3.9 Approve or Reject Application

/Manager	/GUI	/ApplicationController	/Application

changeStatus(appId)

changeStatus(appId)

changeStatusField(appId)

applicationStatus

applicationStatus

applicationStatus

1.3.10 Check Application Status

/Employee	/GUI	/ApplicationController	/Application

selectApplicationsSubmitted

selectRequest

selectApplicationsSubmitted

searchResults

searchResults

searchResults

selectOneOfResults(appId)

detailOfApplication(appId)

detailOfApplication(appId)

detailsOfApplication

detailsOfApplication

detailsOfApplication

1.3.11 Stock Management

/Administrator	/GUI	/StockController	/Stock

displayStock()

displayAllItemQuantity()

getAllItemQuantity()

itemQuantities

itemQuantities

itemQuantities

purchaseItems(items, num)

purchaseItems(items, num)

addItems(items, num)

1.4 Class Diagram

2 Use Case Analysis

2.1 Users Management Use Cases

Actors: Administrator

- Create new user
- Search certain users
- Change user's profile
- Delete user

Use Case: Administrator creates a new user

Actor: Administrator
Description: Administrator fills in the information of a new user in the add new page.
Precondition: Administrator logged in the system and chose add new
Steps:

1. Administrator fills in the username

2. System checks the username availability

3. Administrator fills in the password

4. System checks whether the password is valid

5. Administrator fills in all the other information of the new user and submit

6. System checks whether all the fields are valid

7. GUI displays the information of the newly created user

Postcondition: Administrator is viewing the user detail

Use Case: Search certain users

Actor: Administrator
Description: Administrator searches one or more certain users using some filter details.
Precondition: Administrator logged in the system and is viewing the search page
Steps:

1. Administrator chooses the filter options and types in the keywords

2. Administrator confirms to search

3. GUI displays the search results

Postcondition: Administrator is viewing the search results

Use Case: Change user's profile

Actor: Administrator
Description: Administrator changes user's personal information, department or user type.
Precondition: Administrator logged in the system and is viewing the user's profile
Steps:

1. Administrator types new values for the fields that need to be modified

2. Administrator submits the changes

3. System checks whether all the fields are valid and makes the changes

4. GUI displays the new profile

Postcondition: Administrator is viewing the user's new profile

Use Case: Delete user

Actor: Administrator
Description: Administrator deletes the user he selected
Precondition: Administrator logged in the system and is viewing the selected user's profile
Steps:

1. Administrator clicks the delete button

2. Administrator confirms deletion

3. GUI displays if the deletion is successful

Postcondition: Administrator is viewing the deletion result

2.2   Supplies Management Use Cases

Actors: Employee, Manager

- Search items

- Apply for the items

- Manager lists all applications

- Approve or reject application

- Check the application status

Use Case: Search Items

Actor: Employee
Description: Employee searches the items using one or more keywords.
Precondition: Employee is view the search item page
Steps:

1. Employee types in the keywords and search

2. GUI displays the search results from stock or API data source

3. If Employee is not satisfied with the results from stock, the employee chooses to search from API data source

4. GUI displays the search results from API data source

Postcondition: Employee is viewing the search results

Use Case: Apply for the items

Actor: Employee
Description: Employee applies for the approval for getting the needed items.
Precondition: Employee selected the needed item and is viewing the apply page
Steps:

1. Employee types in the quantity of the needed item, and submit the application

2. System sets the application status to "submitted?

Postcondition: Employee is viewing the submitted application

Use Case: Manager lists all applications

Actor: Manager
Description: Manager lists all the applications from the employees in his department.
Precondition: Manager logged in the system
Steps:

1. Manager requests all the applications in his department

2. GUI displays all the applications that meet the conditions

Postcondition: Manager is viewing all the applications in his department

Use Case: Approve or reject application

Actor: Manager
Description: Manager selects the submitted application and decides whether to approve or reject.
Precondition: Manager logged in the system and is viewing all the applications in his department
Steps:

1. Manager selects an application that he would like to process

2. Manager approves or rejects the application, if the manager rejects the application, he can choose to give reason

3. GUI displays the processed application

Postcondition: Manager is viewing the processed application

Use Case: Check the application status

Actor: Employee
Description: After the employee applies for his needed items, and before he gets them, he is able to know the status of his application
Precondition: Employee logged in the system, and submitted his application
Steps:

1. Employee requests all the applications he submitted

2. GUI displays all the applications that meet the conditions

3. Employee checks all the statuses of the applications he submitted

4. Employee selects an application he submitted

5. GUI displays the details of the application

Postcondition: Employee is viewing the details of his submitted application