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Project Title: Donation Make Difference

Project Description: In this project, I'm using Android Studio to create a Donation Application in which user can donate money to other people who need money. There are three roles involved, regular user (user who can only donate money), special user (user who can post their own donation and receive money), admin (admin can approve applications and edit all donations user posted). When user first register their account, they are all regular user by default, but they can fill out the donation application within the app. Once the application user posted has been approved by admin, they will have more functionality button on the menu interface. The special user will have abilities to post their own donation and edit their own donation. Before any user can donate money to others, they will first link their credit card to their account, once the credit card information has been proved as valid, they will be able to donate money. Each donation has a specific amount limit, one the money received reach that limit, other users are not be able to donate to this donation.

Features Implemented

U: User

A: Admin

ID	Features
U1	User can register their own account
U2	User can use registered account to login the system
U3	User can submit a donation application
U4	User can post a donation once they have the authorization
U5	User can edit their own donation post
U6	User check the list of the donations existed and pick one that I'm interested in
U7	User can check the detail of a specific donation
U8	User can link a credit card to their account
U9	User can donate the money to specific donation item once the credit card has been approved
A1	Admin can review a list of applications
A2	Admin can prove specific application
A3	Admin can edit all donations user posted

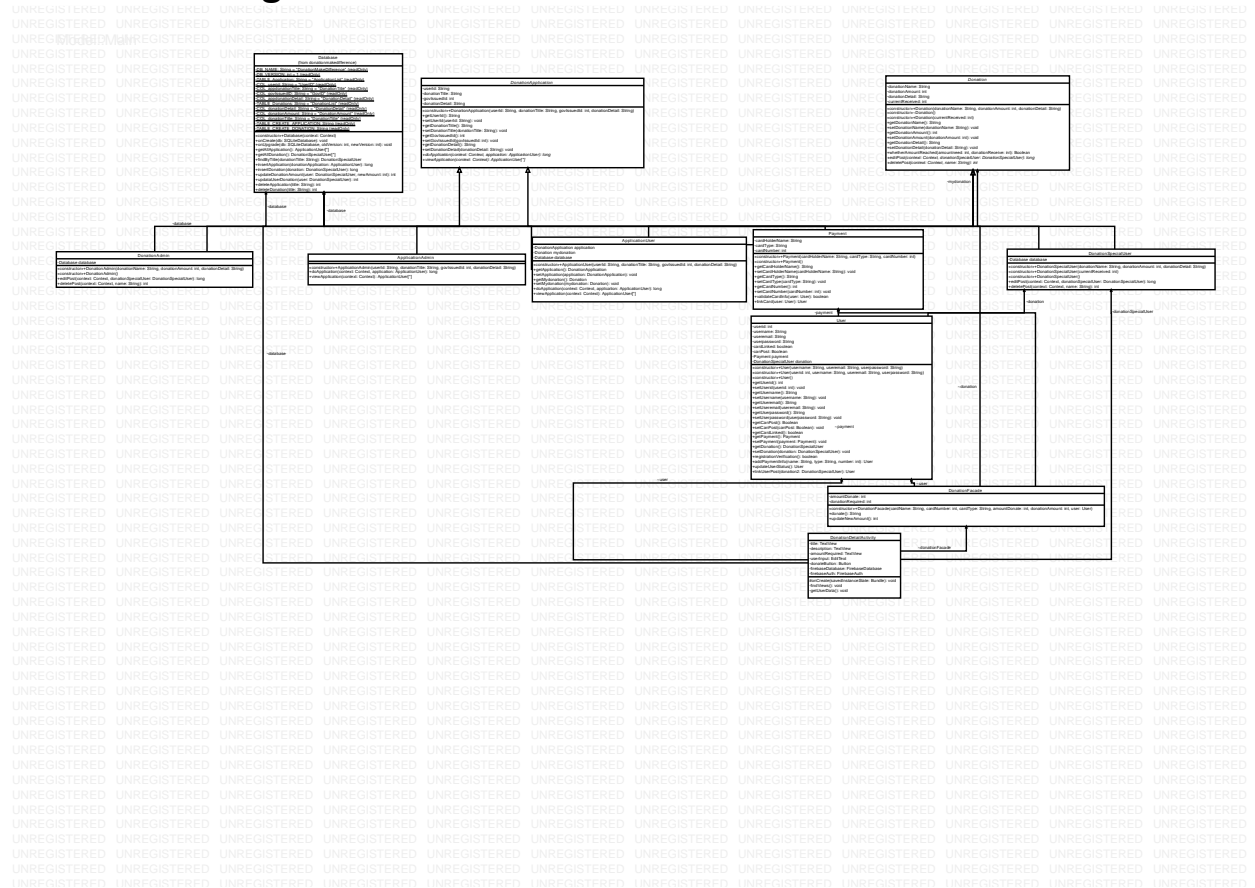
Features not Implemented

U: User

A: Admin

U10	User cannot see their application status (What I implement is that once user has been approved, they will have a different interface directly on the app)
A4	Admin can delete specific post

Final Class Diagram



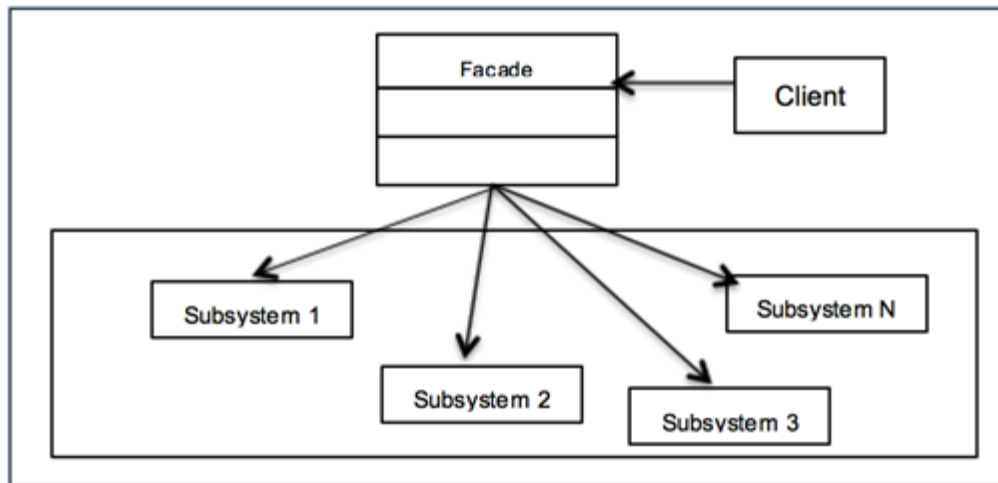
High Resolution one on main directory: [Part6_Whole_Class_Diagram.pdf](#)

Compare the final class diagram with my initial class diagram that created before actually coding the project, I made a lot of changes and they are almost different diagram. In my initial class diagram, I only have 6 class and I putted too many functionalities in to a single class. Ex: User class can create account, donate, link payment, and so on. In my final class diagram, I

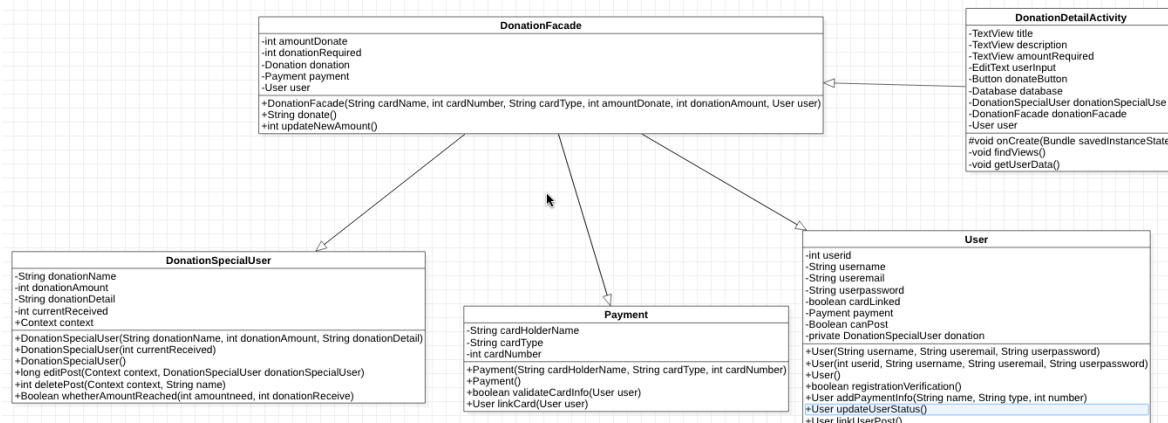
separate these functionalities into multiple class. Ex: donate goes to Donation class, link payment goes to Payment class.

Design Pattern Implemented

Façade Design pattern



Façade Design pattern(For this project)



The design pattern I have implemented for this project is Façade. The façade design pattern is used to define a simplified interface to a more complex subsystem, this is what I need for my project. I have a class called **DonationFacade**, which has a method called **donate**, **donate** will execute three separate methods in **DonationSpecialUser** class, **Payment** class, and **User** class. When user click the donate button in the app, a **DonationFacade** object will be created and the

donate method will be executed. If we are not using the Façade design pattern, we will create too many objects to execute the donate action.

What I learned

During this semester, I have learned that there are a lot of things I should do before I actually start coding for the project. Things like thinking about user story, creating class diagram, thinking about the design pattern, and so on. After finishing the project, even the final class diagram looks a lot different than the class diagram I have created before starting the project, the initial class diagram definitely help guide me through the process and make me realize what classes, functionalities I need to add or delete.