

Team 5 Contribution report

Eugene Tham

Role and Responsibilities

Mainly responsible for programming for .Net MVC application, Android applications, and linear regression module in the Flask API.

Deliverables and interaction

1. Developed .Net MVC application for clerk, department head, representative. Developed controllers, Views and related service classes and ViewModels for Requests, Store Retrieval, Disbursement, Delegate Authority, Collect Items and Authorization and Authentication Filters.
2. Developed .Net Web API controller for department representative to communicate with Android application. Developed RequestRestController and DisbursementRestController in the APIs folder.
3. Developed Android mobile applications for department representative.
4. Developed Flask API to communicate linear regression results with .Net MVC application.

Major Challenges and resolution

	Challenges	Resolution
1	Had to repeat code found in Controllers in the API controllers	Implemented a Service Layer
2	When sharing the web and mobile applications between members, had to constantly edit the urls as the base urls are different.	Create a custom class that stores all the urls, so that only the base url in that class needs to be edited.
3.	Unfamiliar with how to code API in C# to communicate with android application.	Need to go through tutorial to understand the concepts and implementation of REST API.

Quantum

Approximately 8 hours a day for the whole duration of projects.

Experience

The project has exposed me to developing .NET Framework ,android and python applications. The most valuable takeaway I gained from this project is how to implement a separation of concerns, e.g. service layer so that the overall code is maintainable. Also learned how to work with APIs and api tools such as Postman.

Liou Cheng Xiang

Role and Responsibilities

Mainly responsible for programming for .Net MVC application, Android applications and data visualization module in python API.

Deliverables and interaction

1. Developed .Net MVC application for store clerk. Developed controllers, Views and related service classes and viewmodels for Order, Delivery, Inventory and Email function.
2. Developed .Net Web API controller for store clerk to communicate with Android application. Developed InventoryRestController, AuthenticationRestController, DisbursementRestController and RetrievalRestController in the APIs folder.
3. Developed Android mobile applications for store clerk.
4. Developed Python API to provide analytic capability for .Net MVC application.
5. Prepared store clerk user manual and demonstration video.
6. Do user's requirements gathering.

Major Challenges and resolution

	Challenges	Resolution
1	Difficulties in accessing .Net server within android emulation as android emulator cannot identify localhost address.	Need to study android course work to edit application config file properly.
2	Encounter security credential problems when accessing local server within android emulator.	Need to research online, after multiple trial and error. I realized the issue is https request required more stringent security credential from a server. To work around this, we sent http request from android instead.
3	Encounter difficulties when we want to send an image file from the python flash server back to .NET MVC server. Prior to this, we have no experience with sending image file over http response.	Research on line to find out how image can be decode into string format in python to be send over in JSON file. I also research on how to encode back the image in C#.
4.	Unfamiliar with how to work with JSON object and JSON array.	Need to go through tutorials to understand how to package and send data in JSON format and how to parse them correctly.
5.	Unfamiliar with how to code API in C# to communicate with android application.	Need to go through tutorial to understand the concepts and implementation of REST API.

Quantum

Approximately 8 hours a day for the whole duration of projects.

Experience

The project has exposed me to developing .NET Framework ,android and python applications. The most valuable takeaway I gained from this project is how to resolve technical difficulties, or how to workaround it to deliver a working solution on time. Throughout the project, I have learnt how to analyse the technical issues I faced and ask the right question when I am searching for answer online. My debugging skill also improved a lot after this project.

Role and Responsibilities

Role: Programmer , responsibility: Developing part of the web application by ASP.NET MVC and python.

Deliverables and interaction

1. Finish the first week's progress report
2. Developed .Net MVC application for store clerk. Developed AdjustmentVoucher controller with the related Views and related service classes and models for adjustment voucher part.
- 3.Finished MachineLearning based on the requisition dataset to predict the request quantity by using LinearRegressionModel, and use flask web framework and python language to display the request list on the web page
4. Done the Form Validation on the both side of department and store
- 5.Finished the non-Functional requirement specification

Major Challenges and resolution

	Challenges	Resolution
1	Unfamiliar with the python code and flask web framework	Search lots of references from the google, Filter the most useful information from this
2	Unfamiliar with the linq language on the ASP.NET	Try to find the reference from the linq, and compare the diffiernece between it and ADO.NET
3	Some bugs in the code are difficult to find the reason and deal with	Spend much time checking the code from the beginning to end and do the debug for many times, also turning to the internet.
4.	Unfamiliar with the Jsonand how to parse the Json	Google the Json , the internet is the best place to help me deal with the question

Quantum

Approximately 8 hours a day for the whole duration of projects.

Experience

The project has made me much more familiar with the project management process. It consolidates my knowledge on ASP.NET and it also let me gain the new useful content which can help me in the future.

Role and Responsibilities

- Requirements Gathering
- Activity Diagram
- Programming

Deliverables and interaction

1. Did the department UI prototype
2. Seed the database by using code first entity framework
3. Developed .Net MVC application for department employee (View Catalogue List).
4. Developed controllers, views, related service classes and view models
5. Did part of the validation
6. Did the department use case diagram and all the State Chart Diagram(Disbursement Status State Chart, Request Status State Chart)
7. Did the department sequence diagram and finalized the store sequence diagram
8. Did the department class diagram and the store class diagram
9. Wrote the department user manual

Major Challenges and resolution

	Challenges	Resolution
1	Difficulties in seeding the database using code first entity framework when the relationships between different tables are too complicated.	Need to search online to see lots of references.
2	Encounter difficulties when creating two dependent drop-down lists.	Research online to try different methods.
3	Unfamiliar with Json and rest controller.	Watch video to learn how to parse json and its related usage.

Quantum

Approximately 8 hours a day for the whole duration of projects.

Experience

The project has exposed me to developing .NET Framework, android and python applications. It helped me to consolidate the things we have learned during the course and better apply them.

Nguyen Viet Dung (Peter)

Role and Responsibilities

Mainly responsible for user requirement gathering, database design and system design, which include ERD Design, different types of diagrams, i.e. Sequence Diagrams, Class Diagrams, Use Case Diagrams.

Also handle UI Design and User Manual.

Deliverables and interaction

1. User Requirement Gathering (together with the whole group)
2. Database Design - ERD Design (together with the whole group)
3. Sequence Diagrams, Class Diagrams, and Consolidation of Deliverables
4. Programming – Navigation Bar for Mobile App
5. Interim Testing, Documentation, Store User Manual and Video Demonstration for Department

Major Challenges and Resolution

	Challenges	Resolution
1	We only had one user gathering session with the store clerk and the department employee, so it was challenging to capture all their requirements.	Recorded the user gathering session Actively interacted with users during and after the session via email and UI prototype sessions
2	Programmers sometimes did not follow the UI prototype finalized in the beginning or were not able to follow due to the time constraint.	Implemented the interim testing Modified the UI prototype where necessary
3.	Android Programming is still new to most of our group members so there were still a lot of bugs when we first implemented the required functions.	Read more reference materials on the Internet to learn more about mobile coding Discussed with group members to debug

Quantum

Approximately 8 hours a day for the whole duration of projects.

Experience

The project has exposed me to developing various skills required in a typical IT project, such as User Requirement Gathering, System Design, Database Design, Coding and Documentation. Together with my ADProject Group, I have gone through the whole project to gain valuable experiences. I feel more confident while completing such a big project as ADProject. Moreover, I have improved various working skills such as Teamwork, Communication and Project Management.

Yeo Jun Wen Samuel

Role and Responsibilities

Mainly responsible for the database design, testing and debugging and the overall documentation of the project.

Deliverables and interaction

1. Created the UI Design for the Department front-end and brainstormed with the team on logical details which should be visible.
2. Developed test cases to assess the application.
3. Conducted testing based on the test cases and raised alerts where tests failed.
4. Provided the structure for both User Manuals and reviewed for submission.
5. Compiled the final report for submission.

Major Challenges and Resolution

	Challenges	Resolution
1	Potential ideal solutions may ultimately prove too difficult to implement within the short timeframe.	Struggled to create from scratch a solution and realized that it was possible to rely on Stack Overflow for some adaptable solutions instead.
2	Unfamiliar with standard testing methods.	Researched on the web to find suitable testing methods.
3	We ran into more issues than previous times where we could not extract data due to improper keys linking each table in the database, especially when it came to details (e.g. Requisition and Requisition Details).	Our ER Diagram connections had to be constantly revisited to update the database links

Quantum

Approximately 6 hours a day (back-loaded) for the whole duration of projects, with a reduced workload in week 3 due to the exam preparation and specific responsibilities in the project emphasizing a heavier workload in the later stages of the project.

Experience

This 1 month experience consolidating what we have learnt in 1 major project has been a hugely enriching one. Understanding the importance of each phase in the SDLC and actually applying them helps to manage the project better. The challenges we faced as a group also reminded me the importance of a deeply analytical ER Diagram instead of rushing through the planning phase just to have something ready to code before the Chinese New Year break. While I have stepped aside from major coding for this project, the documentation of this project has forced me to read up further on the various code implementations done by my fellow group members; to understand the reasoning and rationale behind the coding solution.