Roles and Responsibilities

**1. Start this assignment with each team member writing a brief statement describing unique skills, talents, and expertise they bring to the group and how these relate to the specific role(s) you can perform.**

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| Name | Language | Role Preference | Temp Role |
| Anna Kim | Java, C, Python, PHP, C#, HTML, R, SQL | Back-end developer, Front-end developer (only experience in web front-end developer), Project Manager | Project manager |
| Ali Zaidi | Java, Python, C++, C, C#, Javascript, SQL | Back-end developer, Front-end developer,  Little experience in front-end development though | Front-End |
| Na Li | Java, Python, R, MATLAB, Julia, SQL | Back-end developer | Back-end |
| Jack Long | Java, C++, C, Julia, MatLab, C#, Python | Back-end Developer  Software Architect  Front-end Developer | Software Architect |
| Joon Lim | JAVA, C, C++, Python, SQLite, HTML | Back-end developer  Front-end developer | Front-end |
| Andy Boho | Java, C, Python, HTML, Javascript | Back-end developer  Front-end developer | Back-end |

Ali Zaidi

I bring extensive full stack and software engineering experience as an intern at two different companies. I have worked according to the agile workflow, so I will be accustomed to the pace associated with this paradigm. Specifically, I have worked in java, python, c#, c, and c++. Overall, I have mainly worked on the backend but I am a quick and eager learner, so I am ready to work wherever the team needs me.

My expectations for our back-end developers are that I expect that they will develop a functional backend that will address the functionality we wrote about in our proposal. For front-end developers, I expect they will develop a clean looking user interface that will help make our application appeal to user. For the software architect, I expect that they will lead the charge in bridging the front and back ends. For the project manager, I expect they will lead the charge in the development of the project, keeping team communication clear and frequent, and keep us all accountable.

Na Li

I am familiar with Java, Python, R, MATLAB, and SQL. I have the experience working on the back-end of a project. In this project, I will mainly contribute as in the back-end. My teammates will expect me to develop the back-end part and make data visualizations of the app. I will cooperate with my teammates to make sure the back-end and the front-end parts work together.

Jack Long

I have professional experience writing mobile applications, specifically Android. I also have professional experience as a QA Automation Engineer. With the professional experience I have, I feel that I know how to properly design a mobile software system, where the back-end and front-end interact seamlessly. My teammates expect me to deliver well thought out designs for the software system, with classes outlined down the functions and their return types.This is essential for this to be predefined ahead of time, so that front-end developers know what to expect from the back-end. They also expect me to assist with the actual software development when my design responsibilities are fulfilled.

Joon Lim

I'm familiar with JAVA and C. I’ve done projects using Python, C++, SQLite, and HTML. I’ve done several team projects with people. I’m taking a financial life skills course. I also currently use a budget managing app called Mint. My role is front-end developer for this project. My ability to use JAVA and experience using apps will allow me to perform as a front-end developer. My teammate will expect me to design an app as planned. I can also help others in other parts of the project when help is needed.

Andy Boho

I’ve had exposure to languages like Java, Python C, and Javascript. I’ve also worked with people new to me in a team before. In addition, I’m familiar with how budgeting apps are supposed to work because I’ve used a few in the past. I am also motivated to work hard and open to the ideas of others as far as design aspects go. My teammates expect me to inform them of the backend decisions that I’m making along with the software architect, so that we can make sure that the front-end and back-end are consistent with each other. In addition, my teammates expect me to be prepared every week. Even though I may have some problems developing, I must still bring as much as I can to the group and work well with them.

Anna Kim

I have experience developing a long-term project as both back-end and front-end. I can code in JAVA, C, SQL, and other languages. I will mainly contribute as a project manager, but also involved in coding. It is my first time developing a mobile application, but since we are doing Android mobile application which is coded with JAVA, I can contribute on both front-end and back-end.

**2. Review the assignment pertaining to the phases listed below.**

**3. As a team, write brief statements about what you expect each of your teammates (list each by name) to contribute to the team’s operations and performance. This should be done for each deliverable (phase) in this course.**

Roles: Project Manager, Front-end developer, Back-end developer, Software architect

Sub-roles: everyone working on documentation & testing together

\*\* Every member contributes to documentation and mainly focuses on a section that he/she worked on. (Every member is document writer)

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| Phase:  Requirements & Specification | Role | Team Member | Responsibility | | Interfaces |
| Primary | Secondary |
| Project Manager & Document writer | Anna Kim | Finalize functionalities and features of the application and write detailed specification of the system | Design interface and overall features of the application | Interact with every team member to make sure that everyone has same idea and understanding of the project |
| Document writer | Ali Zaidi | Designing and planning application user interface | Communicating design decisions to the rest of the team | Must interact with PM, and software architect to make sure that design decisions make sense |
| Document writer | Na Li | Work on the documentation of the Customer, User Case and Competitive Landscape  Create the database for expenses, income, and balance | Statistical analysis of the spendings and visually display the results | I will be interacting with teammates to make sure the back-end and front-end work out together |
| Document writer | Jack Long | Selecting mobile system for app to run on. Finding IDE with required libraries to start development. | Documenting and communicating to my team members what software libraries will be used and what system we will be building our app for. | I will be interacting with the Project Manager for designing desired features. |
| Document writer | Joon Lim | Planning app,  Designing user interface, User requirements,  System requirements,  security requirements | Check if functions in interfaces operate correctly | Check with teammates and project manager about designing interfaces, check with software architects and Back-End designer, if necessary, whether it works |
| Document Writer | Andy Boho | Use Cases, and help proofread the document before submitting. Also, begin thinking about what queries will be needed to store the user data. | Make sure we know all the calculations that will need to be done so that the front end will display the correct results with the user. | I will be interacting with both the other back-end developer as well as the front end developers to ensure that they can come together properly. |

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| Phase:  Design & Planning | Role | Team Member | Responsibility | | Interfaces |
|  |  | Primary | Secondary |  |
| Project Manager | Anna Kim | Design the class outline of the program. | Decide what class, methods and functions are needed | Share the outline with front-end, back-end, and software architect members |
| Front-End | Ali Zaidi | Finalize user interface design decisions for application | Document any changes that must be made to the interface, including planned primary and secondary features | To finalize design decisions, I will have to communicate with the entire team to ensure that we are all on the same page |
| Back-end | Na Li | Create the database for expenses, income, and balance | Statistical analysis of the spendings and visually display the results | Make sure the back-end of the front-end work together |
| Software Architect | Jack Long | Design class hierarchy, design back-end function that feed values to front-end visuals. | Document an outline of the software system and producing a hard copy for the developers to eventually follow, with suggestions for which tools to use. | I will be communicating to the back-end and front-end developers the design for the software system we will build, so that in the next phase it is clear what needs to be built and how it will all interact. |
| Front-End | Joon Lim | Designing and implementing user interface | Check if functions in interfaces operate correctly | Check with teammates and project manager about designing interfaces, check with software architects and Back-End designer, if necessary, whether it works |
| Back-End | Andy Boho | Help get the framework down for the backend through sorting out things like budget calculations as well as setting the income. | Make sure that we know which data will go where. This will ease the coding of the back-end as we know exactly what needs to be used for each page of the front end. | Back-end will need to interact with the front-end, software architect as well as the project manager to make sure that all the calculations are sorted out before we begin coding them. |

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| Phase:  Iteration 1 & Document Update | Role | Team Member | Responsibility | | Interfaces |
|  |  | Primary | Secondary |  |
| Project Manager, Front-end | Anna Kim | Get interface code and back-end code to make sure that every functions are implemented | Arrange interface, modify code if needed. | I will mostly interact with a software architect member to test functions and write documentation in detail. Also, constantly communicate with front-end to create stable interface before implementing back-end functions |
| Front-end | Ali Zaidi | Create first iteration of user interface, with basic features | Work with backend team and software architect to blend front and back end design | I will need to interact with the back-end team and software architect a lot during this period |
| Back-end | Na Li | Develop the ER diagram for the database with expenses, income, and balance | Start writing queries that are needed for the development of the database | Will check with teammates for the appropriate ER diagrams. |
| Software architect | Jack Long | Record the completed features and plan next steps in completing the next round of features. If features were not completed due to problems/difficulties, try to find a solution with the developers or fix design issues. | Begin designing secondary features and how to integrate them into the existing system. | Communicate with back-end and front-end members to check if there is any trouble combining interface with functions |
| Front-End | Joon Lim | Designing and implementing user interface  ex) main page, navigation bar, monthly report, goal, category, notification | Check if functions in interfaces operate correctly | Check with teammates and project manager about designing interfaces, check with software architects and Back-End designer, if necessary, whether it works |
| Back-end | Andy Boho | Make sure we get the basic calculations coded as well as making sure we have a place to store user data like income and budgets. | Help with the user queries. Also, contribute to the documentation of the back-end. | The Back-End will have to communicate with the software architect to ensure that we’re on the same page and that our designs go together |

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| Phase:  Iteration 2 & Code Coverage | Role | Team Member | Responsibility | | Interfaces |
|  |  | Primary | Secondary |  |
| Project manager | Anna Kim | Make sure the application works well with all the functions | Help back-end members to further develop functionalities | I will communicate with a software architect member |
| Front-end | Ali Zaidi | Finalize user interface after getting feedback, and integrate secondary features | Ensure that back end and front-end work together seamlessly in application | I will need to interact with the entire team over this period as we attempt to finish application development |
| Back-end | Na Li | Finalize the queries needed for the back-end. | Work on the calculation and data visualization. | Need to check with teammates for the connection of back-end and front-end |
| Software Architect | Jack Long | Connect back-end and front-end codes | Modify some codes to make sure the functionalities work well on the interface | Communicate with back-end and front-end members to check if there is any trouble combining interface with functions |
| Front-End | Joon Lim | Designing and implementing user interface  ex) main page, navigation bar, monthly report, goal, category, notification | Check if functions in interfaces operate correctly | Check with teammates and project manager about designing interfaces, check with software architects and Back-End designer, if necessary, whether it works |
| Back-end | Andy Boho | Finish up everything that will store the users data | Begin the calculations that will allow the user to know if they are or aren’t on track with their budget for the month. | We will need to interact with the software architect to confirm our queries as well as the front end to make sure everyone is on the same page. |

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| Phase: Testing | Role | Team Member | Responsibility | | Interfaces |
|  |  | Primary | Secondary |  |
| Project manager, testing | Anna Kim | Test demo application by asking other students to use it and get feedbacks | Make any change on interface and functionalities based on feedback | Mainly communicate with students who test the application. Discuss about feedbacks with team members |
| Front-end,  testing | Ali Zaidi | Make sure that there are no bugs in the front end | Work with the back end to make sure that there is nothing the user can do to crash the application or get unexpected behavior | Communicate with a project manager and get feedbacks on interface |
| Back-end,  testing | Na Li | Complete the back-end part and connect with the front-end | Further modification of the back-end and complete tools for graphs needed | I will be involved in the testing of the app to make sure the back-end satisfies the requirements of the front-end. |
| Software architect, testing | Jack Long | Design User Tests, Unit Tests, and Integration tests for developers to implement and run to ensure the features they developed function as intended. | Assists in writing and running tests. | As testing, communicate with a project manager to fix any bug |
| Front-End | Joon Lim | Testing functions of user interface  ex) main page, navigation bar, monthly report, goal, category, notification | Check if functions in interfaces operate correctly | Check with teammates and project manager about interfaces functions, check with software architects and Back-End designer, if necessary, whether functions works |
| Back-End | Andy Boho | Testing the calculations of keeping track of the monthly budgets. | Make sure the queries are consistent with the data that the user has inputted. | This iteration, everyone will have to interact with each other to communicate problems the code may have. Teamwork is key in making sure that our app functions properly. |

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| Phase:  Project Outcomes & Lessons Learned; Final Demo | Role | Team Member | Responsibility | | Interfaces |
|  |  | Primary | Secondary |  |
| Project manager | Anna Kim | Prepare presentation and review every functions working well on the application | Prepare for the demo | Communicate with every team member, especially a software architect to make sure the application is completed |
| Front-End | Ali Zaidi | Make sure that the application is completely functional from a front-end perspective before the demo | Make presentation to show interface | For the final demo, the entire team will need to be in communication with one another |
| Back-end | Na Li | Finalize the final version of the back-end including queries, statistics and plots. | Work on the preparation of the demo. | Work with teammates for the final demo report. |
| Software architect | Jack Long | I will hopefully have learned how to design and implement a software system starting from scratch. | I hope to have designed a demo that shows off the full functionality of the application. | Constantly communicate with team members to finish a report |
| Front-End, testing | Joon Lim | Testing functions of user interface  ex) main page, navigation bar, monthly report, goal, category, notification | Check if functions in interfaces operate correctly | Check with teammates and project manager about interfaces functions, check with software architects and Back-End designer, if necessary, whether functions works |
| Back-end, testing | Andy Boho | Make sure that everything on the back end of the application is working flawlessly. | Work through how we’re going to present the final demo. | Everyone will have to be in sync for this iteration. We will need to know who is presenting what to make sure that our presentation goes smoothly. |