California State University Long Beach

College of Engineering

Computer Engineering Computer Science Department

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Sixfold Development Project Plan V1.0

Group Members:

Michell Kuang (Team Lead)	**013421094**
Joshua McDaniel	**014542786**
Jingyan Du	**014436615**
Peter Park	**002948398**
Jacen Tan	**012393782**
Daniel Gione	**016513144**

Version History

Version	Date	Author(s)	Comments
V1.0	10/10/19	All members	-Original document

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Overview

This document aims to establish a working timeline to keep developers on track with creation of features. It explores the risks undertaken within the project, such as management and securing of private data and ensuring safety for its users. It also helps to establish a scope and calculates cost estimates of the project as a whole, separating items such as labor, software, and testing.

Project Goal

Goal	**Priority**	**Description**
Assist with managing household responsibilities	High	Solve the problem of responsibilities management on cohabiting people
Assist with matching people looking to cohabitate	Low	Help household recruitment and searching household

Project Scope

- **User Scope**
    - Our target users are adults who need to share a house or apartment with other people.
    - The regional restriction of our product is Orange County, California, United States.
- **Application type**
    - Our product will be a single page web application
    - Users can access our application by high speed Internet connection (broadband):
        - Wired Internet - Allow users to access the application by cabled Internet.
        - Wireless Internet - Allow users to access the application by WIFI
- **Data Reference**
    - User Data - information related to a user
        - Display name
        - Password
        - Email
        - First and last name
        - Date of Birth
        - Gender
        - Description
    - Household Data - information related to a household
        - Household name
        - Household address
            - Street address

                - City
                - State
                - Zip
            - Monthly rent
            - Amount of rooms
            - Room costs
            - Security deposit
            - Rent due date
    - Message
        - Message contents
        - Message sent date
    - Task
        - Name
        - Starting date
        - Due date
        - Instructions
        - Responsible list
    - Supply request detail
        - Name
        - Description
    - Expenses detail
        - Name
        - Type
        - Creation date
        - Payment date
        - Amount to pay
    - Loggings
        - Expenses
        - Tasks
        - Supply request
        - Log in
        - Log out

Resources

- Developers - Six undergraduate students from California State University Long Beach
    - Michell Kuang - Team Lead
    - Joshua McDaniel - Developer Lead
    - Jingyan Du - Quality Assurance Specialist
    - Peter Park - Business Analyst
    - Jacen Tan - Research Lead
    - Daniel Gione - Marketing Lead
- Time - Estimate time: 1135 hours for the entire project.
    - Implementation start from 12/10/19 to 5/8/2020
        - Total 209 days (one week break for Christmas)
- Funding - Estimated: $150000

- Labor - we assume we will be working 6 hours a day, for 209 days, at 18 dollars an hour for 6 people it ends up becoming about 6 X 209 X 18 X 6 = 135432 dollars.
- Software Cost
  - Most software we are using are free but an estimated cost for software as $100 is required.
- System costs
  - System administrator for managing databases and different accounts
    - 18 dollars an hour, 6 hours a day, 5 days a week indefinitely
- Equipment - 0
  - Developers are using their own laptops for project.
- Print
  - Since most documents are required to be printed out. We make an estimated cost for printing.

Cost	Expense
Labor	$135432
Software Cost	$100
System Cost	$11286
Equipment	$0
Print	$200

Risk Management

- Scope / Requirement Changes
  - Living Documents
  - Extra Time in Easier Tasks
  - Constant Client Communication
- Developer Illness/Injury
  - Extra Time Allotted
  - Weekly Meetings
  - Flexible Developers, can change tasks
- Software Changes
  - Alternate Libraries
  - Alternate Frameworks
  - Living Documents
- Cost Changes

    - Alternate software options
    - Free developing tools to save on budget

Project Timeline

Certain documents will always been updated during the developing:

- Business Requirement Document
- Project Plan
- Tech Spec
- Design document
- Project roadmap
- Site map
- Project Backlog

Before each sprint starts, a group meeting is required to assign tasks, evaluate exact velocity and discuss possible changes on plan.

	Project Plan Timeline						
Sprint NO.	**Deliverable**	**Priority**	**Effort**	**Hours**	**Estimate Velocity**	**Start Date**	**End Date**
1						12/10/19	12/16/19
	Research .NET framework	Medium	Medium	15	3		
	Research Vue / React	High	Medium	15	3		
	Learn CSS, JS, HTML	High	High	25	5		
	Research Google Maps Static API	Medium	Medium	15	3		
	Research Google Time Zone API	Medium	Medium	15	3		
	Familiarize with GitHub and Node.js	High	Medium	15	3		
	Review SQL DDL and DML	High	High	25	5		
			Total	125	25		

Sprint 1:

- Research for developing tools and APIs are necessary because developers shall know what they need and what can help them to finish the project.
- Learning Languages is necessary because developers shall be skilled in programming to provide high quality project.
- Reviewing Database related knowledge shall help developers work better on database.

Sprint NO.	Deliverable	Priority	Effort	Hours	Estimate Velocity	Start Date	End Date
2	User Database Creation	High	High	25	5	12/17/19	1/6/20
	User Account Creation	High	Medium	15	3		
	Log In	High	High	25	5		
	Log Out	High	Low	5	1		
	Password Reset	High	Low	5	1		
	User Profile	Medium	Low	5	1		
	User Homepage Framework	High	Medium	15	3		
	Unit Tests for User Account	High	Medium	15	3		
	Create Logging system and System Analytics	High	Medium	15	3		
	Implement EULA	High	Low	5	1		
	Error Handling for User Accounts	High	Medium	15	3		
			Total	145	29		

Sprint 2:

- User Database Creation - To implement User Account Feature, data storage is necessary.
- User Account - This project requires user authorization to access any features.
    - Creation
    - Login
    - Logout
    - Password Reset
    - Admin Account
    - Profile
- User Homepage - As the initial homepage, any features shall be accessed through this homepage.
- Unit Test - To guarantee user account's operation, find possible errors and debugging.
- Logging System - Logging System is always necessary for web projects to detect errors.
    - System Analytic - Based on Logging System, a System Analytic can help developers understand the performance and usage for a system.
- EULA - User need to agree with EULA to install this project. The EULA will be updated with the progress of the project.

- Error Handling - To ensure the user account system’s operation, error handling is always important. Shall cover known errors from unit test and shall be updated with the progress of the project.

Sprint NO.	Deliverable	Priority	Effort	Hours	Estimate Velocity	Start Date	End Date
3	Message Database	High	High	25	5	1/7/20	1/16/20
	Message Inbox Creation	High	Medium	15	3		
	Message Sending (to Household)	High	High	25	5		
	Message Receiving	Medium	Low	5	1		
	Message Deletion	Low	Medium	15	3		
	Message Replying	Low	Medium	15	3		
	Message Mark	low	low	5	1		
	Unit Tests for Messaging System	High	Medium	15	3		
	Error Handling for Message System	High	Medium	15	3		
			Total hr	130	27		

Sprint 3:

- Message Database - To implement messaging system, we need data storage for messages inbox.
- Messaging System - Messaging system helps users communicate and schedule interviews with host of a household.
    - Creation
    - Sending
    - Receiving
    - Deletion
    - Replying
    - Mark
- Unit Test - To guarantee messaging system's operation, find possible errors and debugging.
- Error Handling - To ensure the messaging system's operation, error handling is always important. Shall cover known errors from unit test and shall be updated with the progress of the project.

Sprint NO.	Deliverable	Priority	Effort	Hours	Estimate Velocity	Start Date	End Date
4	Household Database	High	High	25	5	1/17/20	1/30/20
	Household Creation	High	Medium	15	3		
	Household Role Framework	Medium	Medium	15	3		
	Household Profile	Medium	Low	5	1		
	Household Homepage Framework	High	Medium	15	3		
	Household Search	High	High	25	5		
	Unit Tests for Household Search and Creation	High	Medium	15	3		
	Error Handling for Household Creation and Role Framework	High	Medium	15	3		
			Total	115	23		

Sprint 4:

- Household Database - To implement household system, we need data storage for household related features.
- Household System - A household is required before implementing any management features
    - Creation
    - Role Framework
    - Profile
- Homepage Framework - Users shall be able to access other features through the household homepage.
- Household Searching - To join a household, user shall be able to search for households
- Unit Test - To guarantee household system's operation, find possible errors and debugging.
- Error Handling - To ensure the household system's operation, error handling is always important. Shall cover known errors from unit test and shall be updated with the progress of the project.

Sprint NO.	Deliverable	Priority	Effort	Hours	Estimate Velocity	Start Date	End Date
5	Invitation Database	High	High	25	5	1/31/20	2/13/20
	Invitation Inbox Creation	High	Medium	15	3		
	User Invitation Decline / Deletion	Medium	Low	5	1		
	User Invitation Acceptance	High	Low	5	1		
	Household Invitation	Low	Low	5	1		
	Unit Tests for Invitation Creation and User Acceptance	High	Medium	15	3		
	Error Handling for Invitation feature	High	Low	5	1		
			Total	75	15		

Sprint 5:

- Invitation Database - To implement invitation system, we need data storage for invitations inbox.
- Invitation System - A user shall be able to join a household by invitation to fully access features of this program.
    - Creation
    - Decline/Deletion
    - Accept
- Household Invitation -A host or co-host shall be able to access to invitation creation through household invitation on household homepage.
- Unit Test - To guarantee invitation system's operation, find possible errors and debugging.
- Error Handling - To ensure the invitation system's operation, error handling is always important. Shall cover known errors from unit test and shall be updated with the progress of the project.

Sprint NO.	Deliverable	Priority	Effort	Hours	Estimate Velocity	Start Date	End Date
6	Household Tenant Management Framework	High	Medium	15	3	2/14/20	2/27/20
	Household Disband	Medium	High	25	5		
	Household Tenant List	High	Medium	15	3		
	Household Tenant Selection	Low	Medium	15	3		
	Household Host Selection	Medium	High	25	5		
	Tenant Removal	Medium	Medium	15	3		
	Tenant Promotion	Low	Low	5	1		
	Tenant Demotion	Low	Low	5	1		
	Unit Tests for Household Tenant Management	High	Medium	15	3		
	Error Handling for Household Tenant Management	High	Low	5	1		
			Total	140	28		

Sprint 6:

- Household Tenant Management Framework - The management of tenants shall be implemented before expense, task or supply management.
- Household Disband - User shall be able to disband a household if the household is unnecessary.
- Household Tenant - Tenant management is required for assigning tasks, split expenses and upload supply request.
    - List
    - Host Selection
    - Removal
    - Promotion
    - Demotion
- Unit Test - To guarantee household tenant management system’s operation, find possible errors and debugging.
- Error Handling - To ensure the household tenant management system’s operation, error handling is always important. Shall cover known errors from unit test and shall be updated with the progress of the project.

Sprint NO.	Deliverable	Priority	Effort	Hours	Estimate Velocity	Start Date	End Date
7	Household Expense Management Framework	High	Medium	15	3	2/28/20	3/13/20
	Expense Database	High	High	25	5		
	Expense Creation	High	High	25	5		
	Expense Splits	Medium	Low	5	1		
	Expense Records	High	High	25	5		
	Expense Record Deletion	Low	Medium	15	3		
	Unit Tests for Household Expenses Management System	High	Medium	15	3		
	Error Handling for Expense Management System	High	Low	5	1		
			Total	130l	26		

Sprint 7:

- Household Expense Management Framework - Core feature, this program is focusing on help user management expense, tasks and supplies in a household.
- Expense Database - To implement household expense management system, we need data storage for expense related features
- Expense Management System:
    - Creation
    - Splits
    - Records
    - Record Deletion
- Unit Test - To guarantee expense management system's operation, find possible errors and debugging.
- Error Handling - To ensure the expense management system's operation, error handling is always important. Shall cover known errors from unit test and shall be updated with the progress of the project.

Sprint NO.	Deliverable	Priority	Effort	Hours	Estimate Velocity	Start Date	End Date
8	Household Task Management Framework	High	Medium	15	3	3/14/20	3/28/20
	Task Database / Logs	High	High	25	5		
	Task Creation (Single Time)	High	Medium	15	3		
	Task Creation (Repeating)	High	Medium	15	3		
	Responsible Tenant List	High	Medium	15	3		
	Task Viewing	Medium	Medium	15	3		
	Task Editing	Low	High	25	5		
	Task Deletion	Medium	Medium	15	3		
	Task Reminders	Low	Low	5	1		
	Task Completion	High	Low	5	1		
	Incomplete Tasks	Low	Low	5	1		
	Unit Tests for Household Task Management System	High	Medium	15	3		
	Error Handling for Household Task Management	High	Low	5	1		
			Total	175	35		

Sprint 8:

- Household TaskManagement Framework - Core feature, this program is focusing on help user management expense, tasks and supplies in a household.
- Task Database - To implement household task management system, we need data storage for task related features
- Task Management System:
    - Creation
    - Responsible Tenant List
    - Viewing
    - Editing
    - Deletion
    - Reminders
    - Completion
    - Incomplete
- Unit Test - To guarantee task management system's operation, find possible errors and debugging.

- Error Handling - To ensure the task management system’s operation, error handling is always important. Shall cover known errors from unit test and shall be updated with the progress of the project.

Sprint NO.	Deliverable	Priority	Effort	Hours	Estimate Velocity	Start Date	End Date
9	Household Supply Request Management Framework	High	Medium	15	3	3/29/20	4/12/20
	Supply Database	High	High	25	5		
	Supply Request Creation	High	Medium	15	3		
	Supply Request Viewing	Medium	low	5	1		
	Supply Request Editing	Low	low	5	1		
	Supply Request Deletion	High	low	5	1		
	Unit Tests for Household Supply Request Management System	High	Medium	15	3		
	Error Handling for Supply Request Management	High	Low	5	1		
			Total	90	18		

Sprint 9:

- Household Supply Request Framework - Core feature, this program is focusing on help user management expense, tasks and supplies in a household.
- Supply Database - To implement household supply request management system, we need data storage for supply related features
- Task Management System:
    - Creation
    - Viewing
    - Editing
    - Deletion
- Unit Test - To guarantee supply request management system's operation, find possible errors and debugging.
- Error Handling - To ensure the request management system's operation, error handling is always important. Shall cover known errors from unit test and shall be updated with the progress of the project.

Sprint NO.	Deliverable	Priority	Effort	Hours	Velocity	Start Date	End Date
10	Expected Add-on tasks	N/A	N/A	N/A/A	N/A	4/13/20	5/8/20
	User Manual	High	Low	5	1		
	FAQ	High	Low	5	1		
	Developer Docs	Medium	Low	5	1		

Sprint 10:

- Expected Add-on tasks - We leave enough time for risk management. All extra time after 4/13/20 shall be used:
    - Alternative plan
    - Deliverable delay
    - Exceed Extent
    - Personnel cause - Sick, Injury, etc.
    - Tech Issue
- New sprints will be discussed and updated when add-on tasks issued.
- User Manual - The important document to help user understand and use this program.
- FAQ - The document lists all common problems related to this program, problems shall be collected from unit tests.
- Developer Docs - The important document to help developers understand this program functionally for better updating and maintenance.

MileStones

Milestone 1

Date: 1/16/20
Objective:

- System Logging Implementation finish
    - Error Handling
    - System Analytics
- Database for user account and messages finish
    - Data read, edit and store
- User features finish
    - Admin account finish
- Messaging features finish
- User access to messages

Milestone 2

Date: 2/13/20
Objective:

- Databases for household and invitation finish
    - Data read, edit and store
- Household homepage prototype
- Household search finish
- Invitation features finish
- User access to research

Milestone 3

Date: 4/12/20
Objective:

- Databases for expense, tasks, supply requests finish
    - Data read, edit and store
- Tenant management finish
- Expense, task, supply request management finish
- Household homepage fully accessible

Milestone 4

Date: 5/7/20
Objective:

- Documents
    - Developer doc
    - User manual
    - FAQ
- Project finish
- Expected add-on tasks
- The due date for Milestone 4 shall be changed depends on the progress of the project for buffer.