Desi

Matthew Flickner
Loyola Marymount University
CMSI402

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Original Proposal

My project for 402 will be called Desi and will be an iOS application built on the Parse SDK. The purpose of Desi is to help a group of people manage their responsibilities. A user of the app belongs to a group with other users. With each group, there are tasks, each of which has a specific user responsible for completing that task. That person is called the Desi. A point is given to the Desi upon completion of his task. Users can volunteer to complete a task if they are not the Desi and earn double points. Points can be used as a payment for the Desi to opt-out of his task.

Chapter 3

A chapter.

Chapter 4

Software Development Plan

4.1 Plan Introduction

This provides the development plan for Desi, which allows users in a group to manage tasks.

4.1.1 Project Deliverables

4.2 Project Resources

4.2.1 Hardware Resources

- iPhone
- Server

4.2.2 Software Resources

- Desi iPhone Application
- Parse Backend Server Application
- Xcode
- Node.js
- Web Browser
- Swift
- MongoDB

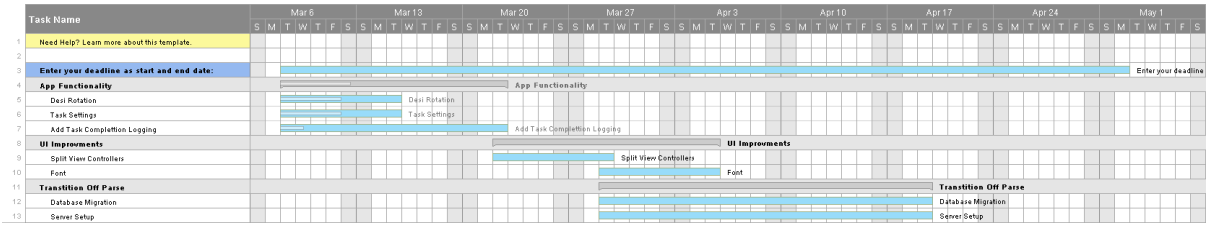
4.3 Project Organization

The app is written by me. Graphic design done by my graphic designer. As far as app progression goes, hitting endpoints and manipulating the data as needed comes first, then come UI Improvements and migrating the server off of Parse Web Service to the Parse Node.js service.

4.4 Project Schedule

This section provides the schedule information for development.

4.4.1 PERT/ GANTT Chart



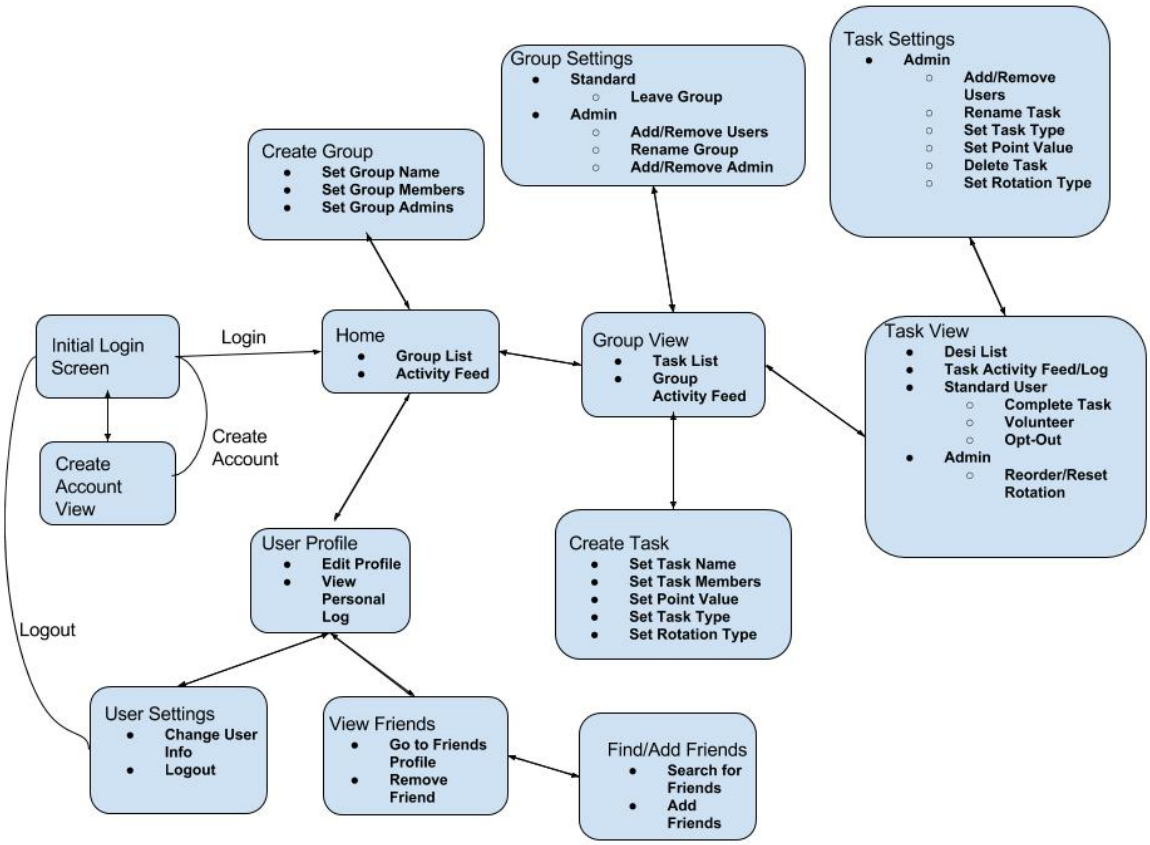
4.4.2 Task/ Resource Table

Chapter 5

Software Requirements

5.1 Introduction

Desi is a system in which a user logs in to create group with other and then create/complete task in a group with those other users. Points are awarded for completing tasks and can be used as currency to opt-out of an assigned task.



5.2 Functional Requirements

5.2.1 General

Run on an iOS Device

Desi must be able to run on a device running iOS.

Make network calls to the backend

Desi must be able to make network calls to retrieve or save data.

Persistant Data

Desi must make use of the mySQLite iOS datastore to make user data persistent.

Handle Network Errors

Desi must be able to function if

5.2.2 Standard User Requirements

- A user must be able to login into their account.
- A user must be able to create a account to use the app.
- Once logged in, a user must be able to create a group.
- A user will have points in any given group they are a member of.
- Any user in a group must have the ability to become a group admin.
- Any user must be able to complete a task given to them.
- Any user must be able to volunteer to complete a task.
- Any user must be able to pay with points to opt-out of a task.
- Any user must be able to view a log of a task's history.
- A user must be able to leave a group they wish to no longer be a part of.
- A user must be able to logout of his account.

5.2.3 Group Admin

- An admin must be able to add other users to the group.
- An admin must be able to remove a user from the group.
- A group admin is automatically a task admin for any given task in the group.

5.2.4 Task Admin

- A task admin must have the ability to reset a Desi in any given task in the group.
- A task admin must have the ability to remove a user from a given task.
- A task admin must have the ability to change the order of Desi's in a task.
- A task admin has the ability to change the point value of a task.

5.3 Performance Requirements

5.3.1 Network

- Desi must make network calls that take no longer than 10 seconds.

5.3.2 Algorithms

- Desi must use algorithms that are scaleable to be efficient (less than $\Theta(n^2)$) with large amounts of data.

Chapter 6

Status Reports

6.1 Status Report 2-23-16

6.1.1 Summary

Currently, the massive code restructuring is almost complete. The API calls are working well. On the UI side of things, my graphic designer is closing on a logo, color schemes, and layout designs.

6.1.2 Problems

- Concurrency on the API calls. What happens if a person tries to do a volunteer completion roughly at the same time as the Desi completes?
- People just constantly volunteering to complete tasks for points regardless of whether or not they are actually doing them. Potential Solution: Time Delay after a completion is made. Tasks with deadlines can only be completed around the deadline time.

6.1.3 What's Next?

Explore the concurrency problem, add more customizable options for tasks. Implement settings menus. Start logging tasks.