

# \$anity

## Assignment 5 - Sprint 1 Document

### Hitchhikers 2.0

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# 1. Preface

## 1.1 - About/Mission

This document serves to produce the definitions, specifications, architectural/detailed designs, requirements, and implementation for \$anity, a mobile finance application that allows users to create a budget across a variety of categories to which users can easily specify when they spend money. As an implementation specification, this document shall include changes of design decisions that are different from Assignment 2, and the reason of the changes as updated from comments from Sarah Cooney and the CSCI-310 document grader.

## 1.2 - Intended Audience

The intended audience for this implementation document are all parties of the development cycle of \$anity: the client of the \$anity app, Sarah Cooney, who has commissioned the software and is in charge of clarifications, and the developers of the \$anity, thereafter.

## 1.3 - Version History

This section will be updated as \$anity continues to be expanded and new features are implemented as well as a rationale for why these versions were finalized.

- *Version 1.0* - Delivered as of **October 18th, 2017** under conditions specified in Assignment #3. Current application has been written to standards specified by Sarah Cooney with notable exception of certain push notifications which were later clarified with her (in-app notifications will now be allowed) and time frame table which will be implemented in further versions of \$anity.
- *Version 1.1* - Delivered as of **October 30th, 2017** under conditions specified in Assignment #4. Current application has been updated to include new functionalities improvements include:
  - Addition of text boxes that allow for frequency and time period for budgets/categories

- Pie Chart for users to engage with
- Users are able to make budgets and delete them
- Google Maps Integration to locate transactions over previous transactions
- Testing document completed for versions completed in *Version 1.0* under assignment regulations by Professor Nenad Medvidovic

## 2. Daily Scrum Meetings

In this section we shall be discussing the daily Scrum meetings that went into Spring 1. In order to provide clarity and ease of read, we will be following guidelines that adhere to answering the following questions when discussing the Summary of Performance:

- What did I do yesterday that helped the team meet the Sprint goal?
- What will I do today to help the team meet the Sprint goal?
- Do I see any impediment that prevents me or the team from meeting the Sprint goal?

### 2.1 - Scrum Meeting on November 1st, 2017

*Time:* 4:10 PM - 6:30 PM

*Meeting Location:* Cafe 84 - Cafe 84 Starbucks

*Summary of Performance:*

- Adam Espinoza
  - Did not complete anything yesterday as this was our first Spring meeting.
  - Created Sprint 1 Document & Backlog Document with all outlines to assist in SCRUM meetings for team.
  - Today, I will plan on completing all of the 'skeleton' for the document that way it's easier for other members in the team to add their own text to what they did for the day. In addition, I'll be working on the SCRUM review for the team at the end of the session.
  - No impediments since I'm working on the document and am not creating any conflicting problems for the rest of the team that has been working on the application.
- Aneel Yalamanchili
  - Roadmapping and planning for Sprint 1.
  - Researching different methods of how to provide notifications to a user (i.e. text message, email, push, in-app).
  - No impediments at this current moment.

- David Sealand
  - Roadmapping and planning for Sprint 1.
  - Goal is to research and start implementing reset dates and timestamps in the Java backend and MySQL database
  - No impediments at this current moment
- William Wang
  - Roadmapping and planning for Sprint 1.
  - Goal is to start research and implementing setting limit for categories, by diagramming the relationship and interactions between a budget amount and category limit.
  - No impediments at this current moment

## 2.2 - Scrum Meeting on November 2nd, 2017

*Time: 04:15PM - 6:45 PM*

*Meeting Location: Cafe 84 - Cafe 84 Starbucks*

*Summary of Performance:*

- Adam Espinoza
  - Wrote Scrum Review from the previous day, where I discussed where our project when during the meeting time period.
  - Assist David Sealand in any additional functions he needs to write.
  - Assist Aneel and Will if they need any additional help in writing XCode methods to make the process easier (or run Ngrok for them in case Sealand needs to charge his computer).
  - No impediments at this current moment
- Aneel Yalamanchili
  - Began implementing in-app notifications for budget thresholds.
  - Finishing implementing in-app budget threshold notifications and start helping William implement setting limits for categories.
  - No impediments at this current moment.

- David Sealand
  - Started implementing reset dates and timestamps in the Java backend. This needs to be able to keep track of when the date is reset with the SQL database and also have a presentable JSON for the users on the front-end (through Aneel and William) to see.
  - Will finish implementing dates and start writing more message handling functions for incoming JSON objects so that if Aneel and William need any additional features, that it will already be written.
  - No impediments at this current moment.
- William Wang
  - Began implementing setting limit for categories. As a refresher: a limit is set for each category, based on the larger budget set for each category. Started diagramming relationship between budget amount and category limit, meaning that when a budget has a certain amount, categories cannot exceed that budget amount (because they should be limited to that value.
  - Planning on finishing implementing setting limit for category feature, but will work on next Scrum meeting if necessary.
  - No impediments at this current moment.

### **2.3 - Scrum Meeting on November 05th, 2017**

*Time: 3:50PM - 5:10PM*

*Meeting Location: Cafe 84 - Cafe 84 Starbucks*

*Summary of Performance:*

- Adam Espinoza
  - Yesterday I worked on the Scrum Review for the meeting we had for our first meeting (November 1st, 2017).
  - Planning on working on Scrum Review for the previous session (November 2nd, 2017).

- Assist Aneel and Will if they need any additional help in writing XCode methods to make the process easier (or run Ngrok for them in case Sealand needs to charge his computer).
- Solve any merge conflicts that occur on the GitHub repository.
- No impediments at this current moment
- Aneel Yalamanchili
  - Finished budget thresholds with the help of William and Sealand who implemented features in the backend code.
  - Planning on working with William to work on default spending threshold, in addition to working on setting up preliminaries for frequency for when the notification will be shown for the user.
  - No impediments at this current moment
- David Sealand
  - Finished implementing dates and wrote additional functions to help call information from the database. Functions calls were added to:
 

```
public void parseMessage(JSONObject message, Session
                             session, WebSocketEndpoint wsep) {...}
```

 which are needed to receive messages and send message back to Aneel and William.
  - Will start working on creating JSON objects for Default Frequency, especially in context with the SQL Database. Information will need to be either added as another column in the transactions or through some other means so that we can keep track of how frequent the users should be notified.
  - No impediments at this current moment
- William Wang
  - Finished implementing limit for the categories and diagrammed the relationship between the budget and categories.
  - Planning on fixing issues with respect to when transaction limit is exceeded



- Also planning on looking into default spending threshold so that users can be notified when they have hit a certain threshold.
- No impediments at this current moment.

## 2.4 - Scrum Meeting on November 6th, 2017

*Time:* 3:33 PM - 9:27 PM

*Meeting Location:* Ronald Tutor Hall Cafe → West New Annenberg

*Summary of Performance:*

- Adam Espinoza
  - What I did yesterday I worked on creating the Scrum Review for November 5th, 2017.
  - Today I will help Aneel run the Ngrok server and with any additional features that need to be implemented for the backend code (grabbing information from the SQL Database.
  - No impediments besides merge conflicts that might arise from code that I'm pushing since I am not super familiar with the Java backend code as compared to David Sealand.
  - No impediments at this current moment.
- Aneel Yelamanchili
  - Almost done working on default spending threshold; needed to help William on the default spending frequency towards the end of the meeting so I stopped working on it.
  - Planing on finishing default spending threshold by the end of the meeting time, and hopefully we'll be able to test all of the features.
  - If I have extra time I'll start working on Budget Notification for Time & Budget front-end (which will be connected by Sealand from the Java backend).
  - No impediments at this current moment.
- David Sealand

- Worked on adding method calls in parsemessage as a preemptive measure that way when Aneel and William need to connect default spending threshold and spending frequency alerts, we'll have a functional thing we can test.
- Planning on working on Budget Notification for Time & Budget on the backend for Aneel and William. This is mostly to ensure that the JSON being sent alerts the user when they are close to their budget or time period that they specified on their original budget.
- No impediments at this current moment.
- William Wang
  - Had some issues implementing transaction limit is exceeded, mostly having the error appear on the app as an in app notification. However, finished diagramming the relationship with budgets and categories.
  - Going back in to check default spending threshold so that users can be notified when they have hit a certain threshold because there was some refactoring that needed to be done.
  - Will start working on Limit Notification for Category from Swift and XCode standpoint. Will be able to start connecting with Sealand if he finishes his code problems.
  - No impediments at this current moment.

## 2.5 - Scrum Meeting on November 7th, 2017

*Time:* 5:30 PM - 9:55 PM

*Meeting Location:* Wallis New Annenberg, Room 309 → Annenberg Media Lab

*Summary of Performance:*

- Adam Espinoza
  - I wrote some additional functions that were needed for the SQL database that weren't originally in the Application.java file. We needed some sort of

way to keep transactions sent back from the database, so I wrote a JSON array to help with presenting the information on the front end.

- Help Will in bugs that have been occurring recently
- No impediments at this current moment.
- Aneel Yelamanchili
  - Finished the Default Spending Threshold as per last meeting time and in the middle of testing features that have been implemented.
  - Planning on getting through Budget Notification for Time & Budget for the front end
  - Will work with Sealand on backend changes.
  - No impediments at this current moment.
- David Sealand
  - Finished writing Budget Notification for Time and Budget on the backend for Aneel and William. The JSON now has notification properties to alert the user in application that they are close to their time limit or budget limit. There are some bugs that I'll look into during this meeting.
  - Planning on going back to fix some bugs in parsemessage since the JSON was having problems adding the correct text from the database. Will also work with Will to continue Limit Notification for Category so he can connect the backend and also with Aneel.
  - No impediments at this current moment.
- William Wang
  - Completed fixing the issues in implementing transaction limit, now users are able to be notified if they exceeded the transaction limit. Made some work on default spending threshold, but need to have the threshold appear with Sealand's backend code as we were having issues (mostly bugs).
  - Planning on finishing Limit Notification for Category and connecting with Sealand on his backend changes.
  - Resolve any bugs that are appearing.

- No impediments at this current moment.

## 2.6 - Scrum Meeting on November 8th, 2017

*Time:* 4:13 PM - 6:34 PM

*Meeting Location:* Parkside Cafeteria

*Summary of Performance:*

- Adam Espinoza
  - Planning on finishing the reviews, proofread, and make any additional changes that way we can turn in the assignment as soon as possible
  - Fix any bug issues that are going on in the backend Code with David Sealand
  - No impediments at this current moment.
- Aneel Yelamanchili
  - Planning on adding TouchID and FaceID for iPhone application services to improve security for users.
  - No impediments at this current moment.
- David Sealand
  - Resolve backend issues on Java code backend.
  - No impediments at this current moment.
- William Wang
  - Worked last SCRUM on resolving XCode crashing issues. For some reason the application kept crashing despite nothing being changed from XCode's original system state.
  - Planning on implementing TouchID (which Aneel can help with).
  - No impediments at this current moment.

## 3. Sprint Review

This section is for an overall review done at the end of every Sprint. We will review the work that was completed and the planned work that was not completed. Also, we will reflect on the past Sprint, identify and agree on continuous process improvement actions.

### 3.1 - Review of Scrum Meeting on November 1st, 2017

*Time:* 4:10 PM - 6:30 PM

*Meeting Location:* Cafe 84 - Cafe 84 Starbucks

*Meeting Summary:* The meeting went off without a hitch and we were able to come up with a comprehensive list of things we had to complete by the end of the semester (see Backlog Document). In reference, we talked about what specific things were harder to complete than others, for example, setting a default frequency for which the user would be notified. The bulk of the session was spent researching how to do things in Swift and Objective-C as Aneel and Will are not familiar with how to provide user notifications via email or text message through the app. Sealand worked on updating certain functions in the Java backend that are necessary to make updates to the SQL database. This is going to be useful in the future that way we can call the information and will always have an up to date value for the user's budgets (among other important information that they need represented on the front end). He tested as he implemented to ensure that there was no fault in the processes such as a process causing the SQL database to overwrite important values. Adam assisted wherever was necessary such as helping Sealand write the backend code or giving commentary to Aneel and William. We had planned to actually write code but this sessions was useful in doing research and discovering what was working and what wasn't working in the end.

### 3.2 - Review of Scrum Meeting on November 2nd, 2017

*Time:* 04:15PM - 6:45 PM

*Meeting Location:* Cafe 84 - Cafe 84 Starbucks

*Meeting Summary:* This meeting was more geared to overcoming issues that came up in the last meeting in regards to figuring out which functionalities were important to keep and which were easy to work on as time went on. Aneel began implementing in-app notifications for the budget thresholds while Will was working on setting up limit for categories. It actually worked out really well because while they were doing that, Sealand was fixing issues in regards to reset dates and timestamps in the Java. Adam stayed out of the mix by focusing on the document (which will help later on). We started off the meeting with the Scrum talk mention in Section 2.2 and then segwayed into what we plan on implementing as the project continues. We decided in this meeting that if Aneel and Will work on XCode stuff via Swift and Objective-C, Sealand and Adam could work on backend code and then at the end of the meeting we would focus on connecting the two together before leaving. Sealand thankfully finished handling the messages being passed around in the JSON just as Aneel and Will were ready to start testing the code. There was some errors that occurred in the Java backend (mostly in the form of Threading), however, the functionality seemed to be working! Sealand said he would work on the Threading issues when he was at home and we ended our sprint meeting, agreeing to meet a couple days later because midterms were happening for Will and Sealand.

### **3.3 - Review of Scrum Meeting on November 5th, 2017**

*Time:* 3:50PM - 5:10PM

*Meeting Location:* Cafe 84 - Cafe 84 Starbucks

*Meeting Summary:* This meeting was geared towards laying out a roadmap of what stories we wanted to accomplish from the backlog over the next week, who should do what, and when they should be completed by. All of us had finished our first tasks by this time, which made it easier for us to compare the rest of the stories to flush out work. Aneel was working on default spending threshold while also setting up the framework functions for frequency. Sealand spent most of the meeting writing additional functions calls in parsemessage, which he switch into Default Frequency JSON writing. There had not yet existed a suitable JSON for the Frequency in the Database, so he added an extra column

and added it to a function that's calling all information into the JSON. Will worked on issues fixing issues with respect to when the transaction limit was exceeded. Apparently there was some logic error in the code that wasn't allowed it to be represented correctly. We also discussed potential impediments to the coming stories, and designed preliminary actions to take if need be. The main impediments we had were from unexpected bugs that kept appearing. We spent the end of the meeting testing to make sure that the features were working correctly. We then spent part of the time talking about how far we've come and how much more we need to tackle for the app. We feel like we're at a good place since we implemented numerous new functionalities, but we are worried that it we won't have time or that some other issue might arise that could cause problems (merge conflicts chief among these).

### **3.4 - Review of Scrum Meeting on November 6th, 2017**

*Time:* 3:33 PM - 9:27 PM

*Meeting Location:* Ronald Tutor Hall Cafe → West New Annenberg

*Meeting Summary:*

This meeting we talked about goals and looked into some merge conflicts we had last meeting. We needed to make sure that there wasn't any problems/overwritten code that was reflected locally on our folders which we figured out all changes were updated to have the desired effect. Then we started our Scrum talking about goals for the meeting today. Aneel wanted to finish testing Default Spending Threshold and was going to work on Budget Notification for Time & Budget on XCode. Will resolved issues on the from last meeting and got through most of Limit Notification for Category which he connected with Sealand after he added extra functions to parse message and debugged the code. There were exceptions being thrown in the Java code but he was able to resolve them pretty quickly after fixing a couple lines of code and reflecting the changes on the database. He then switched to helping connect with Will and testing the updated changes for Limit Notification for Category. Adam worked on adding some additional functioned that were needed for the SQL database that weren't in the main Java file. This was to help provide

better transaction information to Aneel who was working on the Budget Notification Time & Budget. He needed JSON information to be able to display the correct message for the user. Thankfully there weren't as many impediments during this meeting as there were in other meetings we've had, so we were able to make a lot of headway on the application. Most of this meeting was spent working on things that were specified on the Sprint 1 backlog, and we managed to complete our goals for the day.

### **3.5 - Review of Scrum Meeting on November 7th, 2017**

*Time:* 5:30 PM - 9:55 PM

*Meeting Location:* Wallis New Annenberg, Room 309 → Annenberg Media Lab

*Meeting Summary:*

We started working in Wallis New Anneberg at the start of the meeting and then had to relocate to the Annenberg Media Lab because there was a 6:30 PM class in the room we were stationed within. We started the meeting talking about goals for the meeting which were specified in Section 2.5 and began working. This meeting Will had a major issues with XCode crashing for no apparent reason. He spent about 30-40 mins Googling and referring to Stackoverflow trying to figure out why the IDE was not opening the iPhone simulation. There was apparently, as we later found out, issues with developer access and packaging which were resolved when he restarted his computer and reconnected everything over again. While this impediment took up significant amount of time, it's good that we manage to resolve it and continue working on other features. After Will resolved the issue he worked on fixing bugs in default spending threshold and started working on Limit Notification for Category so that when Sealand was done working on creating the JSON to send alerts, that we could just connect. While that was going on Aneel working on Default Spending Threshold and got some done on Budget Notification for Time and Budget (set up foundational XCode code structures with comments). Adam ran Ngrok server for Aneel at one point during the meeting to help work on separate issues. At the end of the meeting we tested the code we had written by trying to pass information back and forth. Some of this was done during the meeting such as for the default spending



threshold and Limit Notification for Category that way we could resolve any issues that came up. Aside from the impediment Will was having with the XCode not opening up the simulator, nothing else stopped us from becoming 95% done with the Sprint 1 backlogged information. We decided that we'd test functions the next day and work on adding some additional features if we could.

### **3.6 - Review of Scrum Meeting on November 8th, 2017**

*Time:* 4:13 PM - 6:34 PM

*Meeting Location:* Parkside Cafeteria

*Meeting Summary:*

This meeting was primarily focus on on proofreading the Scrum document and then working on implementing any new features that weren't specified in the Sprint at the start. For example, we spent the majority of the time testing to see that things were working as they should so when we demo to our grader, that they all work. Aneel and Will both started working on adding TouchID and FaceID in order to improve security for users. We had gotten on the discussion about it during our last meeting and started talking about it as something cool we could add to give us a differentiation factor. Sealand was working on fixing any Java backend code and ensuring that test cases were passing -- i.e, making sure that when users were pre populated into the Database, that they would be persist and appear on the iOS app on the front end. We talked about what we could implement in the future (for the next Sprint or by the end of the project) such as making API calls to Venmo and updating graphs so that the users can have a fully functional application that they can use and interact with minimally.