Recipedia

Project Plan

Programmers Anonymous Production
(Team 9)

Frank Buibish
John Franklin, Jr.
Kevin Houtz
Kevin Schenk
Wilson Sumanang

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1 Problem

We plan to create a recipe-storage mobile application and a website-based service that will ease the task of finding and planning recipes for meals within one's own home. The application will also prepare an accurate shopping list of needed ingredients for those recipes and will give the user the ability to add other miscellaneous items.

2 Background Information

Up to this point, our team has created a problem statement identifying the problem we are trying to solve and determining the stakeholders of our project. Together we created a requirements document showcasing the necessary quality and functional requirements to solve the problem. Our team's design document provided a detailed analysis of the project's structure and implementation of the following features:

2.1 Finding Recipes

Many families have a collection of recipes. All of these recipes may come from various sources: newspapers or magazines, family and friends, cookbooks, or personal secrets. These recipes may be stored in multiple places around the kitchen, and when the time comes to find a recipe, one must look through all the various sources and in many different categorized locations. Many people like to see a recipe's final product, but some recipes don't provide any media like a picture or video. Families need an easier way to find, view, and save their favorite recipes.

2.2 Collecting and Sharing Recipes

There are many online and printed resources where users can print, clip, and store recipes. With so many sources, it takes a lot of time to find that special recipe a user is looking for. If there were a universal source to find recipes, users would be able to spend less time looking and more time cooking. Recipes will be able to be sorted into user-defined categories and easily accessed with a click of a button. This universal source would integrate with other sources by providing ways to import recipe data. Other possible integration techniques would include the use of QR codes where a user could scan the code and immediately add the recipe to their collection. Each recipe in our system will be assigned a unique identification number and code for easier sharing purposes. This integration technique could revolutionize the way people share their recipes at dinner parties or in magazines and cookbooks. Integration with social media technologies will also help users inform their friends about their favorite recipes.

2.3 Shopping List

After choosing recipes to prepare, most users' next step is to determine which ingredients they already have in stock and which ingredients they have to purchase at the grocery store. If users had a way to combine all of the ingredients they need to make their food with in one shopping list, they could prevent frequent trips to the grocery store and save on time when finding the items needed.

Stakeholders of the Project

The primary stakeholders of Recipedia are English-speaking people, more specifically the member(s) who cook meals and/or shop for groceries. Recipedia will give stakeholders an easier way to access their recipes and grocery list. In the future, we could internationalize the project by providing support for multiple languages.

Related Projects

- **AllRecipes.com (http://www.allrecipes.com)** – Recipe search tool.
  - **Pros**: Registered users have the ability to save recipes to their "Recipe Box," add items to their menu, and create shopping lists. Free and paid versions of the mobile application are available on iOS, Android, and Windows Phone.
  - **Cons:** Free version of the mobile application does not allow users to view their Recipe Box and shopping list.

- **Recipe Search (https://market.android.com/details?id=com.mufumbo.android.recipe.search) –** Android application to find recipes on AllTheCooks.com.
  - **Pros:** Provides access to nearly 7,000 recipes on the AllTheCooks website. Provides a forum for food related topics.
  - **Cons:** No public/private option to save your own recipes.

- **My Recipe Book (http://itunes.apple.com/us/app/my-recipe-book-your-recipes/id375811859?mt=8) –** iPad application that provides storage of your favorite recipes and has a shopping list.
  - **Pros:** Import recipes directly from websites. Add dietary options for people who are health conscious. Kitchen timer keeps track of cooking food.
  - **Cons:** Application costs $2.99 for stakeholders.

- **PepperPlate (http://www.pepperplate.com/) –** iPhone and web recipe storage application
  - **Pros:** Application provides a cooking mode for iPad to display the recipe in an organized manner without dimming the screen. Free application.
  - **Cons:** Cannot edit the recipe or delete recipes.

3 Subsystems and Planned Releases

List of Subsystems

Back-end Components

- For the mobile phone, data will be compiled and passed using the JSON data markup language. The mobile application will parse this data upon retrieval.
- The back-end will provide the data model of our project and will include all of the classes listed in our design document. These classes will contain all local variables and relevant functions:
  - User
  - CollectionList
  - RecipeGroup
  - Media
  - Recipe
  - Category
  - ShoppingList
  - Ingredient
  - IngredientName
  - Unit
  - Comment
  - Rating

Front-end Components: In order to be consistent, we will provide a seamless interface and optimal functionality between web and mobile versions of Recipedia. Any differences with the interfaces will be denoted under each component.

- Login View
  - Collects login information and allows users to create accounts
- Home View
  - **Web:** After logging in, users will be given a list of the recipes they own as well as recipes recently added by other users. Navigation to other views will be provided on the top of each page.
  - **Mobile:** Provides main navigation throughout the application. From here, users can navigate to the find recipes, add recipe, recipe collection, and shopping list views
- Browse View
  - Users will select which criteria to browse upon in a tabbed interface: most recently added, most popular, category, and/or prep/cook time.
  - Recipe results will show below the browse criteria.
- Search View
  - Users will be able to search for a recipe by name or by one or more inputted ingredients. Results will display underneath the search form sorted by relevancy.
- Recipe View
  - Recipe fields will be shown in the following order (from top to bottom, left to right):
    - Recipe photo
    - Name - If recipe is private, a lock indicator will display after the name.
    - Rating - Users will be able to provide their own rating.
    - Category
    - Serving Size
    - Cook Time
    - Prep Time
    - Ingredients - Quantity, Unit of Measurement, Ingredient Name
    - Directions
  - If a user is adding/editing a recipe, these fields will appear in the same order.
  - **Web:** Options will be given on the right side of the page for users to add the recipe to a collection, edit/delete the recipe (if they are owner), make recipe private or public (if they are owner), and share the recipe.
  - **Mobile:** Options will be given as a menu for users to add the recipe to a collection, edit/delete the recipe (if they are owner), make recipe private or public (if they are owner), and share the recipe.
- Comment View
  - Comments will be shown in the following order (from top to bottom, left to right):
    - Username
    - Comment
    - Timestamp
  - **Web:** Comments will be displayed beneath the recipe view
  - **Mobile:** Users can click a button underneath the recipe view that will go to the comments view
- Shopping List View
  - Shopping list item fields will be shown in the following order (from top to bottom, left to right):
    - Checkbox for marking off items
    - Quantity
    - Unit of Measurement

        - Ingredient/Item Name
    - **Web:** Options will be given on the right side of the page for users to add an item to the list, print the list, and clear the list. A user can edit an item in the list by clicking on the pencil icon next to that item.
    - **Mobile:** Options will be given as a menu for users to add an item to the list, print the list, and clear the list. A user can edit an item in the list by long-pressing an item in the list.
- Collection View
    - Collection titles will be arranged as headings (or folders). When a user clicks on a collection, it will expand and show recipes within that collection.
    - **Web:** Options will be given on the right side of the page for users to add a new collection name, remove a collection, remove a recipe from a collection, or add a collection to the shopping list.
    - **Mobile:** Options will be given as a menu for users to add a new collection name or add a collection to the shopping list. Users can remove a recipe from a collection or remove a collection by long pressing on the collection or recipe they wish to remove.

Build 1 – Friday, November 4, 2011

Our goal for Build 1 is to provide a very basic interface for stakeholders to add a recipe to the system and search for available recipes. Users will also be able to view the recipes they have created in one generic list. We will also provide an area where users can sign up for an account on Recipedia. This will be a minimal implementation of our functional requirements in order to provide a usable application for the stakeholders. The web application and mobile application will have the same look and feel to provide similarity between inferfaces. After these requirements are met, we will test this build to ensure integrity. Below are some of the basic functionalities of Build 1:

Back-end:

- Allow for creation of user accounts.
- Restrict access to information and tasks based on user accounts.
- Allow for creation of recipes.
- Allow querying for recipes.
- Allow clients to update information already stored on GAE.

Web Application:

- Login view
    - Get the username and password from the user.
    - If the user does not already have an account, show page with appropriate fields to create a new account.
    - Verify credentials and enable privileges for registered users.
- Recipe view
    - Display all necessary information needed for the recipe.
- Create/Edit Recipe view - registered users only
    - Get input from user for the recipe name.
    - Allow the user to add as many ingredients as required by the recipe.
    - Allow the user to type instructions for the recipe.
- Browse view
    - Display a list of publicly shared recipes, ordered by category, how recently it was added, popularity, or cooking time.
- Search view

    - User will be able to search all recipes (all public).
    - User will be able to search by name, ingredient, or total time (will be in range decided by user).

Mobile Application:

- Login view
    - Get the username and password from the user.
    - If the user does not already have an account, show page with appropriate fields to create a new account.
    - Verify credentials and enable privileges for registered users.
- Recipe view
    - Display all necessary information needed for the recipe.
- Create/Edit Recipe view - registered users only
    - Get input from user for the recipe name.
    - Allow the user to add as many ingredients as required by the recipe.
    - Allow the user to type instructions for the recipe.
- Browse view
    - Display a list of publicly shared recipes, ordered by category, how recently it was added, popularity, or cooking time.
- Search view
    - User will be able to search all recipes (all public).
    - User will be able to search by name, ingredient, or total time (will be in range decided by user).

Build 2 – Friday, November 18, 2011

Our goal for Build 2 is to add more functional features to the Recipedia application. We will allow users to attach photos to a recipe, organize recipes into user-defined collections, add recipes with a bar code scanner tool, add comments or ratings, and make recipes public or private. After these requirements are met, we will test this and the previous build to ensure reliability.

Back-end:

- Increase security in terms of user accounts.
- Increase search capabilities.
- Allow for clients to save collections of recipes.
- Web and mobile clients will be able to save images and videos to GAE.

Web Application:

- Create/Edit Recipe view
    - The user can select appropriate multimedia to add to the recipe, such as pictures or videos.
    - Assign recipe to collection.
    - Get user input as to whether the recipe will be public or private.
    - Generate the barcode for the recipe.
    - Scan a barcode and import recipe to user recipes.
- Search view
    - Registered user will be able to add the recipe from the search results of public recipes to their recipes.

    - User will be able to search all public recipes using any combination of keyword, ingredient, type of food, and total time.
- Browse view
    - User will be able to view recipes that have been imported.
    - Allow user to browse recipes by popularity (ratings), preparation time, and category.
    - Allow user to select from their recipes and add them to a new "Collection."
- Comment view
    - Users who are logged in will be able to comment and rate recipes.
- Collection view - Registered Users Only
    - Users will be able to view collections they have created.

Mobile Application:

- Create view
    - Attach appropriate multimedia to the recipe, such as pictures or videos.
    - Assign recipe to collection.
    - Get user input as to whether the recipe will be public or private.
    - Generate the Barcode for the recipe.
    - Scan a Barcode and import recipe to user recipes.
- Search view
    - Registered user will be able to add the recipe from the search results of public recipes to their recipes.
    - User will be able to do advanced search all public recipes using any combination of keyword, ingredient, type of food, and total time.
- Browse view
    - User will be able to view recipes that have been imported.
    - Allow user to browse recipes by popularity (ratings), preparation time, and category.
    - Allow user to select from their recipes and add them to a new "Collection."
- Comment view
    - Users who are logged in will be able to comment and rate recipes.
- Collection view - Registered Users Only
    - Users will be able to view collections they have created.

Build 3 – Friday, December 2, 2011

For Build 3, we plan to implement the final phase of functional requirements. This includes providing users the ability to create a shopping list from a collection and share recipes with friends and family through Facebook, Twitter, and E-mail. For the shopping list feature, users will have the ability to mark off items from the list, add an extra item to the list, and change the quantity of items already in the list. After these requirements are met, we will test all three builds to ensure quality.

Back-end:

- Back-end:
- Web and mobile clients will be able to create shopping lists.
- Web and mobile clients will be able to delete items from Google App Engine.

Web Application:

- Recipe view
    - When user is view their recipes, allow them to share a recipe via Facebook, Twitter, and email.

    - Allow user to rate and comment on recipes.
- Shopping List view
    - This page will show a compiled list of recipe ingredients with total quantity for each ingredient.
    - Allow users to mark items off or change quantity of each item.
    - Allow the user to add additional ingredients to the list.
    - Allow the user to print the shopping list
- Collection view
    - User can then send collections to their shopping list

Mobile Application:

- Recipe View
    - When user is view their recipes, allow them to share a recipe via Facebook, Twitter, and email.
    - Allow user to rate and comment on recipes.
- Shopping List View
    - This page will show a compiled list of recipe ingredients with total quantity for each ingredient.
    - Allow users to mark items off or change quantity of each item.
    - Allow the user to add additional ingredients to the list.
- Collection view - Registered Users Only
    - Users can send recipes' ingredients to the shopping list.

4 Risks and Challenges

- **Issue:** If an owner were to update or delete his or her recipe in Recipedia and other users have local copies of that recipe stored on their mobile phone a synchronization issue arises.
  Resolution: If a user opens a recipe that is stored locally on the phone and has an Internet connection, the mobile application should re-download the recipe and override the local copy before the recipe is displayed. If the recipe is deleted, a user will receive a message stating that the recipe is no longer available.

- **Issue:** Users might have problems differentiating between public and private recipes.
  Resolution: Recipes that are private will have a lock indicator next to the title to help users know that this recipe is only available to them and cannot be shared unless they are the recipe owner.

- **Issue:** If user searches for a combination of recipe name and ingredients in the search view, more relevant search results might become hidden within irrelevant recipes.
  Resolution: The search algorithm will make results matching the recipe name more important than the ingredients a user inputted. Users will be given the option to determine if results should match for 'any' or 'all' of the fields searched upon.

- **Issue:** Users may enter multiple copies of the same recipe into the system. This may cause confusion with users of Recipedia.
  Resolution: While there is no way to stop users from entering duplicate recipes, users should be informed that they need to have full publishing rights to the recipes they add to the system. Recipes that are copyrighted will be removed, and user could face consequences.

- **Issue:** If an owner were to privatize his or her recipe in Recipedia and other general users have local copies of that recipe stored on their mobile phone a security issue arises.
  Resolution: After an owner privatizes a recipe, he or she still has the ability to share that recipe with other users. There is no way to determine if a user has previously stored the recipe when it was public or when it was shared privately shared. Therefore, a user must be made aware that previously public recipes are still available to users who stored the recipe after they are made private. Future expansion of the project could store individual username who have access to a private recipe.

- **Issue:** User credentials and connection between the server, web, and mobile applications needs to be secure.
  Resolution: Passwords will be stored with MD5 encryption to keep hackers from accessing passwords. Once a user is authenticated, the server will create a session ID to ensure a secure connection between the server and web or mobile application.

- **Issue:** Users may have a tendency to forget their passwords.
  Resolution: We will give the user an option to reset their password by verifying their email address provided in the system. They will receive an email with a web link to change their password.

- **Issue:** When adding a recipe to the shopping list, users could add the same recipe to the shopping list multiple times.
  Resolution: We believe that although this may cause confusion, users should have this ability to add multiple copies if they plan to make this recipe more than once or to double or triple the amount of servings the recipe provides.

- **Issue:** If the system has a large of amount of stored recipes, the search and browse algorithms may take too much time to load.
  Resolution: Users will be given up to ten results upon the initiation of the first search. They will be able to load more results with pagination. Also, if a search is still being performed after 30 seconds, the user will receive a time out error. This keeps our system from lagging and using too many resources.

- **Issue:** By using PhoneGap for our mobile application, the user interface must be consistent on all devices. A user's work flow on an iPhone may be completely different than that on an Android phone. For example, an iPhone has a single physical button while Android has four of them.
  Resolution: We will continue to provide a single interface across multiple devices. Even though Android phones have a physical 'back' button, a visual back button will be represented in the user interface. We will make the interface usable for all the platforms we develop in.

- **Issue:** Users might find graphical user interface difficult to use on web and mobile applications.
  Resolution: Our human interaction design process will be iterative in nature. We will seek user feedback about the user interface at the completion of each build. Updates will be made to the interface when new features are added. Therefore, a working solution of our product will be available after each build.

5 Tasks

Tasks for Build 1 – Friday, November 4, 2011

Back-end:

- Web and mobile clients will authenticate users and access protected or user information using basic authentication protocol with user information.
- Create URLs that will allow clients to retrieve and post information to and from GAE.
- Web and mobile clients will use get requests to retrieve information from GAE.
- Web and mobile clients will use post requests to send information to GAE.
- All requests that require privileged information will also require the user account accessing the privileged within the request.
- Invalid request will return an error code with a message.
- Search request will require a query parameter with the url for queries about recipes.
- Recipe request to create a recipe will require the following parameters:
    - Title
    - Description
    - Cook time
    - List of instructions
- All requests will return information to the client using the JSON format.
- Web and mobile clients will use the same URLs to send update information to GAE, but instead will attach an id parameter to indicate which item in the database to update.
- Test ability to create recipes and search recipes within the back-end environment.

Web Application:

- Login view
    - Get the username and password from the user
    - If the user does not already have an account, redirect the user to a page with appropriate fields to create a new account
        - Once the account is created, the newly created user will be logged in
    - Verify credentials securely, through encryption, and enable privileges for registered users
    - Build test cases for logging in and creating a new account
- Recipe view
    - Display a selected recipe in an organized layout
    - Test to make sure that private recipes can not be viewed publicly
- Create/Edit Recipe view - registered users only
    - Get input from user for the recipe, the input could be an integer or a character.
    - Allow the user to add as many ingredients as required by the recipe
    - Allow the user to type instructions for the recipe
    - Build test cases to enforce restrictions on guests from this page
    - Build test cases to make sure the varying amount of ingredients are correctly added to the recipe
- Browse view
    - Users will be able to select which fields they would like to browse upon (e.g. most recently added, most popular, etc.)
    - Upon selection, a list of results based on user selection will appear below.
- Search view
    - Get search field inputs from user
    - Upon the search query, display available results below search field form

Mobile Application:

- Login view

    - Show two empty fields for getting user name and password, if password is incorrect show a notification field where a user will be prompted to choose forgot password/reset password, user does not exist and link to create a new user account
    - Verify credentials and enable privileges for registered users.
    - Build test cases for logging in and creating a new account such as when user already exists or using wrong password in test cases.
    - Build test case to create a new account when a user name already exists in the database
- Recipe view
    - Display a selected recipe in an organized format.
    - Test to make sure that only recipes are only displayed if they are public
    - Test to make sure that all the fields in a recipe are shown correctly
- Create/Edit Recipe view - registered users only
    - Show three fields to input prep time, cook time and total time.
    - Allow for the user input of varying numbers of ingredients.
    - Allow the user to input instructions for the recipe where a fields is shown to input either number/words/symbol
    - Build Test Cases for creating a new recipe where there is missing input such as no ingredients name, ingredients value, etc.
- Browse view
    - Users will be able to select which fields they would like to browse upon (e.g. most recently added, most popular, etc.)
    - Upon selection, a list of results based on user selection will appear below.
- Search view
    - User will be able to search public recipe by keywords such as the name of recipe, ingredients name, or total cook time.
    - Keywords will be inputted in the search field on the application
    - Build test cases for searching recipes where there are wrong keywords such as “chicken” becomes “cicken”
    - Build test cases where the keywords do not exist in the database.

Tasks for Build 2 – Friday, November 18, 2011

Back-end:

- Web and mobile clients will be able to store media by sending a multiform post requests to the server.
- User’s passwords will not be stored in plain text. Password hashing will instead be used to secure user’s passwords.
- Web and mobile clients will be able to search with more control by including more parameters to the search URL.
- Web and mobile clients will send a list of recipe ids and title to create a recipe collection.
- Test ability to:
    - save images and video.
    - update information.
    - search recipes with new parameters.

Web Application:

- Collection view
    - Get input from field for the name of the collection and send an appropriate query to the back end to create the empty collection

- Present user with a list of available recipes to add to the newly created collection
    - Create a list of recipe objects and send the list to the back-end
    - Build test cases to make sure that collections are created correctly and maintain the authentication rules associated with recipes and collections
- Create/Edit Recipe view
    - Present user with static fields for putting in the recipe name, directions, privacy options, and cooking time
    - Present the user with form to upload a picture or movie related to the recipe
    - Present the user with a default number of fields for putting in ingredients of varying quantities, allowing the user to add more or less ingredients to the recipe
    - Present a list of collections that have already been made to which the recipe should be added
    - Display the barcode generated through Google Chart API
    - Create a Recipe object and call the method to send the object to the back end
    - Make test cases to make sure it adds the correct amount of ingredients, especially in cases where the number of ingredients is more or less than the default
    - Build test cases to ensure that the system enforces the public or private nature of each recipe
    - Build test cases to make sure the barcode functionality works correctly by corresponding to the correct recipe
- Comments View
    - Display comments under the recipe
- Search view
    - Present the user with a text input field to enter the search terms as well as a drop down list to select which fields of the recipe they wish to search for
    - Construct the appropriate query and send the query to the back end for processing
    - Receive the results of the query and present the related recipes in a paginated format in the order determined by the query
    - Build test cases to ensure that the front end creates an accurate secure query
    - Build test cases for searching combination of keywords
- Browse view
    - Display public recipes by default in a paginated format organized by popularity
    - Show options to browse public recipes organized by other criteria such as date added, preparation time, number of ingredients, etc...
    - Construct the appropriate query and send the query to the back end for processing
    - Get the results of the query and display the recipes in the result in a paginated format in the order determined by the query
    - Build test cases to ensure the browsing functionality when browsing through multiple pages of recipes
    - Test to make sure the system correctly forces users to log in before they can comment on a recipe

Mobile Application:

- Create/Edit Recipe view
    - Present user with fields for putting in the recipe name, directions, privacy options, and cooking time
    - User will be able to upload multimedia such as pictures or videos to the recipe.
    - Barcode generated through Google Chart API will be implemented in Build 2, so that a user of Recipedia will be able to user Barcode scanner to directly go to a specific recipe that has been shared

  - Create a Recipe object and call the method to send the object to the back end
  - Test cases to make sure it has correct amount of ingredients, especially in cases where the number of ingredients is more or less than the default
  - Test cases where private or public is set in a recipe
  - Build test cases to make sure the barcode functionality works correctly to corresponding recipe
- Search view
  - Advanced search will be implemented in this build, where the user can search for recipe by using multiple keywords, where the keywords is define as the name of recipe, ingredients name, type of recipe, and total cook time.
  - Build test cases for searching combination of keywords where some keywords does not exist
  - Build test cases for searching public and private recipes in which only public recipes can be searched by ever user and private recipe can only be viewed or edited by the creator of the recipe.
- Browse view
  - User will be able to view recipes that have been imported.
  - Allow user to browse recipes by popularity (ratings), preparation time, and category.
  - Build test cases to ensure that the browse view is showing recipes according to a popularity/time
  - Build test cases for collections while maintaining browsing functionality
- Comment view
  - Comment and Rating are implemented in this build where only registered users have the privileged to use the function.
  - A registered user who is logged in can rate a recipes once, but unlike rate, comment can be inputted from registered user multiple times on one recipe.
  - Allow user to select from their recipes and add them to a new “Collection.”
  - Build test cases to ensure that only users who are logged in can comment and rate on recipes
  - Test cases where a multiple nested comment is not allowed (a comment about a comment)
  - Test cases where a user can only rate a recipe once
- Collection view
  - Get input from field for the name of the collection and send an appropriate query to the back end to create the empty collection
  - Present user with a list of available recipes to add to the newly created collection
  - Create a list of recipe objects and send the list to the back-end
  - Build test cases to make sure that collections are created correctly and maintain the authentication rules associated with recipes and collections
- Shopping List
  - This page will show a compiled list of recipe ingredients with total quantity for each ingredient.
  - Build test cases where multiple ingredients from one recipe is added to the shopping list
  - Test cases where a user edit the value of ingredients or the ingredients name of the shopping list according to the user input.
  - Test cases where the user mark the ingredients in the shopping list as done

Tasks for Build 3 – Friday, December 2, 2011

Back-end:

- Web and mobile clients will send a list of ingredients and a name to create a shopping list.
- Web and mobile clients will be able to delete items from GAE by using a delete URL with parameters specifying the id of the item and what the item is.
- Test ability to
    - delete items.
    - create and edit shopping lists.

Web Application:

- Recipe view
    - When user is browsing their own recipes, allow them to share a recipe via Facebook, Twitter, and email
    - Allow user to rate and comment on recipes.
    - User can then send collections to their shopping list
- Shopping List view
    - Allow users to mark items off or change quantity of each item
    - Allow the user to add additional ingredients to the list.
    - Give the user the option to print the shopping list
- Test Plan:
    - Ensure the web application passes the tests from build 1 and 2
    - Test to make sure the shopping list page works functionally correct as well as acts how the user would expect it to
    - Ensure that sharing recipes works for every method of sharing

Mobile Application:

- Recipe View
    - Implement a function for sharing a recipe for all users via Facebook, Twitter, or email. Sharing through Facebook and email will also send the Barcode of the recipe for convenient use if there exist a Barcode in the recipe.
    - Test case so that the correct recipes can be shared through facebook, twitter, or email
- Shopping List View
    - A registered user will be available to mark several recipes in their collection list to be added to the shopping list. Where the shopping list contains information such as the ingredient's name and values.
    - User will be given permission to mark an item off from a Shopping List
    - User will be able to change the quantity of each item in Shopping List
    - User will be able to add ingredients to a Shopping List either manually or automatically by selecting a recipe.
- Test plan
    - Tasks in Build 3 will be more focused on testing for the whole application including several test plan that has been used in the other build.
    - Ensure the web application passes the tests from build 1 and 2
    - Test to make sure the shopping list page works functionally correct as well as acts how the user would expect it to
    - Ensure that sharing recipes works for every method of sharing
- Some additional tests that will be completed are :
    - Privacy Controls of users
    - Adding/Deleting a pictures or videos
    - Export and Import a Recipe

- Adding multiple items to shopping list, mark off ingredients from shopping list and changing the quantity items in the shopping list
- View recipes depending on public or private recipes
- Bar-code testing
- Testing for comment and rating (test that only registered user can add rating and once for each recipe and test on comment so that nested comments are not allowed / a comment can't have a comment inside)

6 Cost Estimates

Build 1

Tasks	Optimistic	Likely	Pessimistic
Back-End			
User accounts	2	3	4
Models	10	17	24
URLs	5	10	15
Set up Google app Engine	10	15	30
Test	8	9	10
Web Application			
User Interface	7	10	13
Login Page	1	3	5
View Recipe	2	3	4
Create/Edit Recipe	3	5	6
Search Recipe	3	5	6
Browse Recipes	3	5	6
Test	10	12	15
Mobile Application			
User Interface	7	15	20
Login Window	5	6	7
View Recipe	3	4	5
Create/Edit Recipe	2	3	4
Search Recipe	5	6	7
Browse Recipes	3	4	5
Test	8	9	10
Build 1 Totals	97	144	196

Build 2

Tasks	Optimistic	Likely	Pessimistic
Back-End			
User Accounts	5	6	7
Update Models	3	4	5
URLs	10	15	20
Test	8	9	10

Web Application			
User Interface	7	10	13
Create/Edit Recipe	5	8	10
Search Window	6	7	9
Browse Recipe	5	8	10
Comments View	4	6	8
Create/Edit/ View Collections	7	10	3
Test	10	12	15
Mobile Application			
User Interface	7	15	20
Create/Edit Recipe	5	6	7
Search Window	8	9	10
Browse User Recipes	5	6	7
Comments View	2	4	6
Create/Edit/ View Collections	4	6	8
Test	15	20	25
Build 2 Totals	116	161	193

Build 3

Tasks	Optimistic	Likely	Pessimistic
Back End			
Update Models	5	6	7
URLs	15	17	20
Test	8	9	10
Web Application			
User Interface	15	20	25
Shopping List	7	8	9
Test	10	11	12
Mobile Application			
User Interface	8	12	16
Shopping List	4	5	6
Test	8	10	12
Build 3 Totals	80	98	117

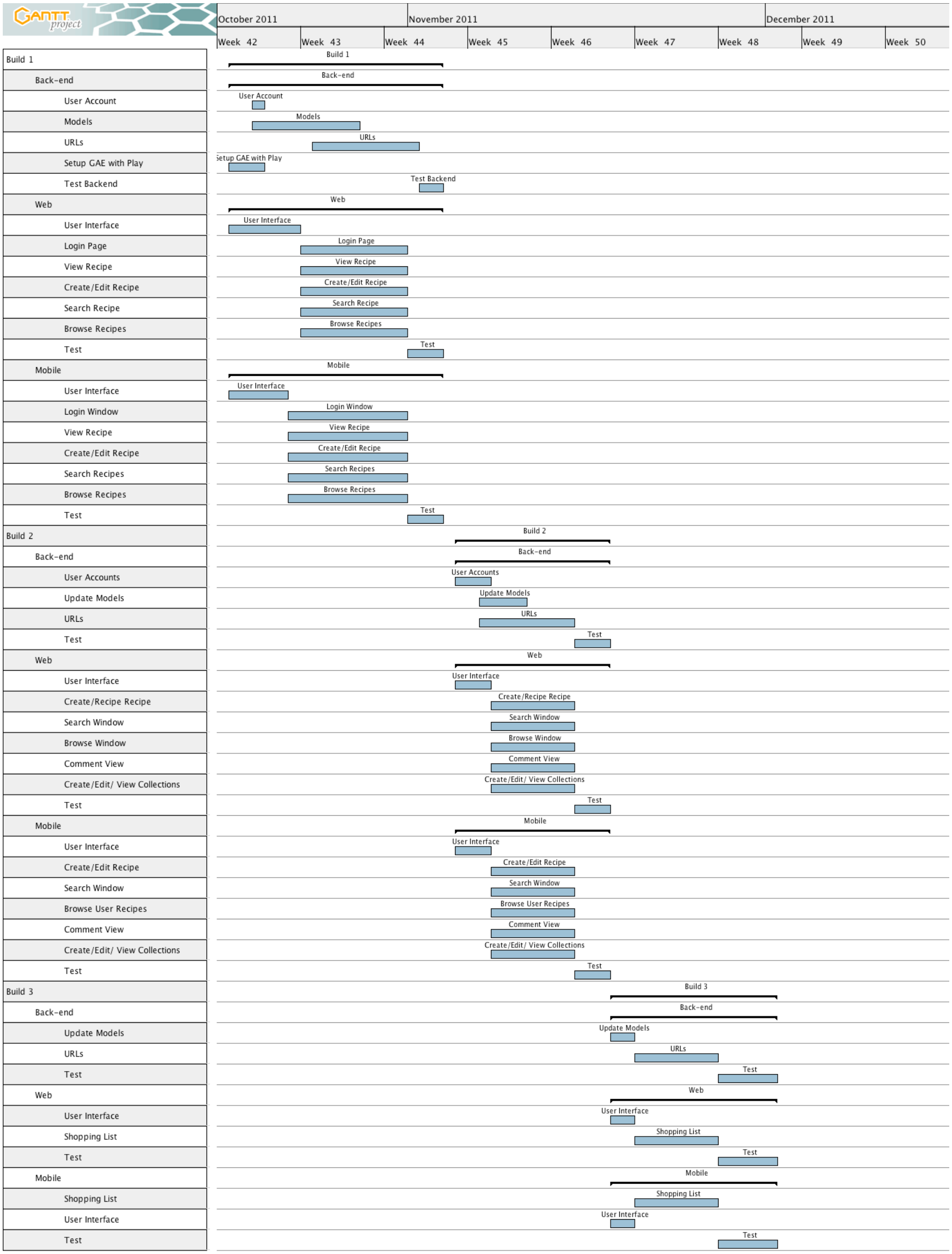
Totals

Build 1 Totals	97	144	196
Build 2 Totals	116	161	193
Build 3 Totals	80	98	117
Grand Total	293	403	506

7 Team

- Back-end Developers
    - Members
        - John Franklin Jr.
    - Skills Needed
        - Proficiency in Java
        - Knowledge of :
            - Java Persistance API (JPA)
            - RESTful web service ideals
            - Play Framework
- Web Developers - One member will design and develop the user interface while the other member focuses on handling data representation and manipulation
    - Members
        - Kevin Houtz
        - Kevin Schenk
    - Skills Needed
        - Proficiency in :
            - Java
            - JavaScript
            - HTML
            - CSS
        - Knowledge of Play Framework
- Mobile Developers - Focus on developing the client side of the mobile application with PhoneGap
    - Members
        - Frank Buibish
        - Wilson Sumanang
    - Skills Needed
        - Proficiency in :
            - Java
            - JavaScript
            - Objective-C
            - HTML
            - CSS
        - Knowledge of
            - iOS SDK
            - Android API
            - Back-End API
            - PhoneGap

8 Schedule and Milestones


October 2011
November 2011
December 2011
Week 42
Week 43
Week 44
Week 45
Week 46
Week 47
Week 48
Week 49
Week 50
Build 1
Back-end
User Account
Models
URLs
Setup GAE with Play
Test Backend
Web
User Interface
Login Page
View Recipe
Create/Edit Recipe
Search Recipe
Browse Recipes
Test
Mobile
User Interface
Login Window
View Recipe
Create/Edit Recipe
Search Recipes
Browse Recipes
Test
Build 2
Back-end
User Accounts
Update Models
URLs
Test
Web
User Interface
Create/Recipe Recipe
Search Window
Browse Window
Comment View
Create/Edit/ View Collections
Test
Mobile
User Interface
Create/Edit Recipe
Search Window
Browse User Recipes
Comment View
Create/Edit/ View Collections
Test
Build 3
Back-end
Update Models
URLs
Test
Web
User Interface
Shopping List
Test
Mobile
Shopping List
User Interface
Test