

Requirements Documentation

Introduction

As a testing application designed for both students and instructors, Coding Buddy delivers the functionality of students being able to take and review exams, and for instructors to make and administer exams along with viewing their students results. Coding Buddy's entire functionality was built around the needs of what Test Users (students) and Admin Users(instructors) are required to do when creating and taking an exam.

As a Test User, their needs revolve around being able to take their test's and viewing their result. When logged in as a Test User, a Test User will be brought to a homepage that displays all the test they need to take and all the test they have taken with a grade next to the test. If a Test User has not taken a test and they wish to take it, they simply click on the test name and they are redirected to the test page and they take the test. Once the Test User submits the exam they will be redirected back to their homepage where they will not only see the test in the "Test Taken" section but they will also have a grade. If the Test User wishes to see the results of the test they can click on the test name and be redirected to a test results page. The test results page will have all the questions of the test listed and the Test Users answers along with the correct answers as well.

As an Admin User, some of their needs include creating exams and viewing the results of the Test User. When an Admin User logs in they are brought to the "Admin Home Page" and they are meet with a plethora of options. They can add questions to a questions bank which include multiple choice and true false. They can also upload a CSV file if they already have a lot of questions made elsewhere and do not want to enter each question one by into the Question Bank. Another Option they have is to create tests for Test Users. When they click on "make test" at there home page, they are redirected to a test making page where they select questions from the question bank, add a name to the test and once they click create it is available to all the users. Once a Test User has taken these Test, the Admin User can see their grades on their admin home page under their name. In addition, the Admin User can see the test results of that Test User by clicking on the exam name under the Test Users username. The Admin User is then able to see the results of the Test User i.e the questions, their answer choices and the correct answer choices. Admin Users, in addition, can also create new user accounts, both Admin Users and Test Users.

Name: Admin User creates admin user accounts and test user accounts (user ids)

Basic Course of Action:

- Display list of existing users and if they are Admin users or not.
- The admin enters a username and password and whether or not the new user is an admin or not.
- Admin creates a new user account for Test user or admin user.
- The system verifies this user does not already exist. If the user exists display that the user already exist, and if user doesn't exist create that user.
- WHERE DO WE GO NEXT

Name: Admin users can add questions to a existing question bank

Basic Course of Action:

- Display existing questions in test bank.
- Admin user selects if they will insert a CSV (Comma Separated Value) file, Multiple Choice, or True false question.
- Admin user then selects an existing category for the question. If the category does not exist admin user enters a new category name.
- Admin User will also select if there will be an image with the picture.
- If it is a multiple choice question, enter question and answer choices then submit.
- If it is a True False question, enter question and if it is true/false then submit.
- If it is a CSV file, parse values and create questions.
- Display the new question/ questions in the test bank.

Name: Admin user can create a test for Test User's

Basic Course of Action:

- Admin user enters a test name (test id) for the new the test.
- Admin user selects questions from already existing test bank.
- Admin user then clicks on create test and test is added to test bank.

Name: Admin Users can delete a test

Basic Course of Action:

- Admin user is at their home page and sees the list of test that currently exist.
- Admin user clicks "x" next to the test name and the test is deleted.

Name: Admin user can see the questions and answers of a Test in the test bank.

Basic Course of Action:

- Admin user sees the Test in the test bank on their homepage.
- Admin user clicks on the Test and is redirected to the page of the questions and answers to the exam.

Name: Admin Users should be able to see a listing of the tests test users have taken and a hyperlink to the results of each Test user test with the questions and their answers and correct answers.

Basic Course of Action:

- Admin user is on their homepage and clicks on Test results button.
- Brought to a page that displays lists of test names along with the Test Users that have taken them with their grades.
- Admin user clicks on a Test User from the one of the list who have taken their exam and is redirected to their results page.
- Admin User sees the questions and the Test Users answers along with the correct answer.

Name: Test User can select a test from the existing test bank they have not taken and then takes exam and then sees their score.

Basic Course of Action:

- Test User sees a list of test they have not taken.
- Test User then clicks on exam name and is redirected to the test .
- User takes exam.
- User is redirected to their home page and sees their score in the list of completed exams.

Name: Test User should be able to see a listing of test they have taken and a hyperlink to the results of the test with the questions and answers

Basic Course of Action:

- Test User sees a list of test they taken with their grade.
- Test User clicks on Test name that is hyperlinked.
- Test User is redirected to a page with each question of the exam and the answer. choice they put for each question and the correct answer.

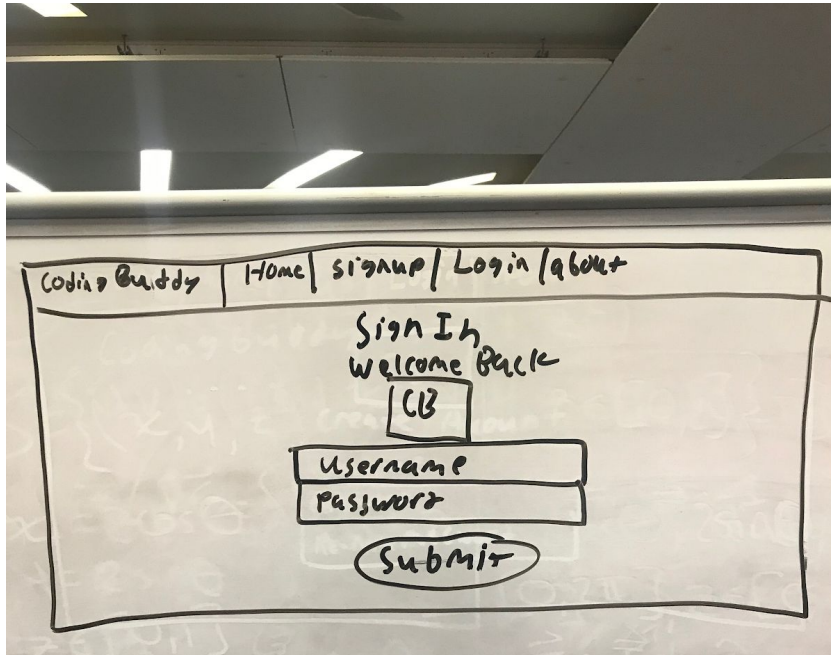
Name: A brand new user signs up and becomes a Test User.

Basic Course of Action:

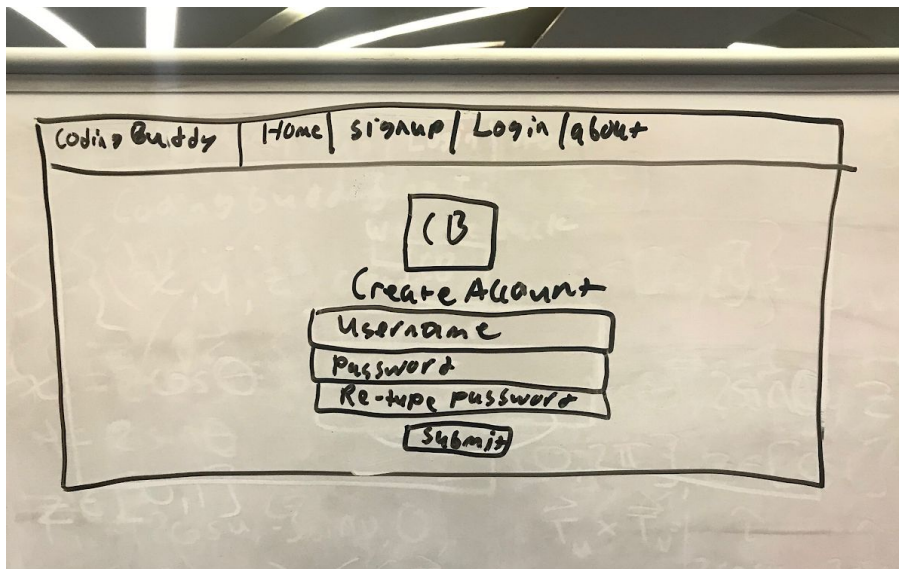
- A new user enters a user name and password to sign up.
- If the username already exists, the new user is alerted that the username already exists and must pick a new username.
- If the passwords do not match with each other, the new user is alerted they do not match up.
- If the username does not exist and the passwords match to each other create new user.

Design Documentation

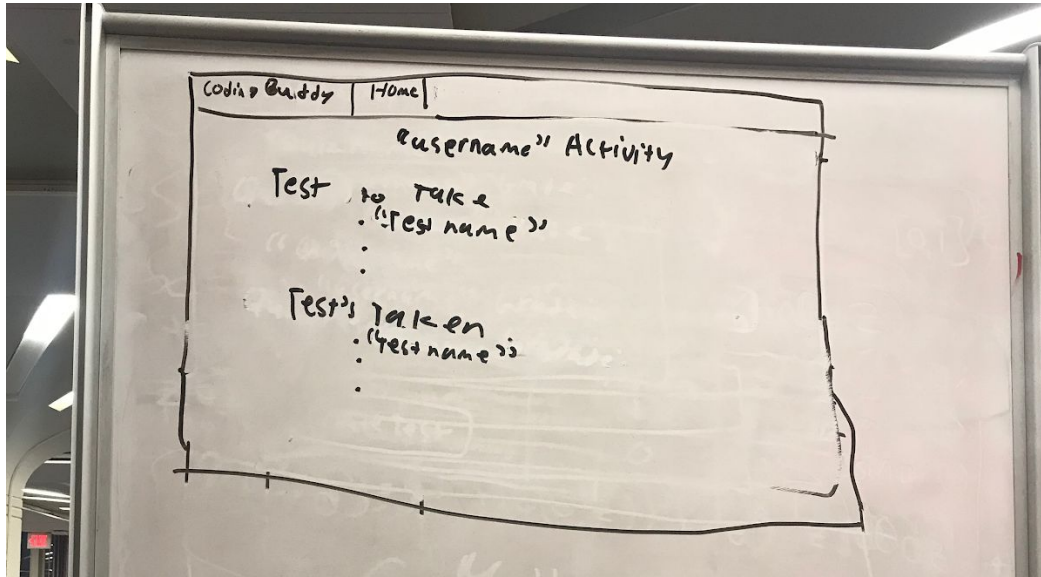
Sign in Page



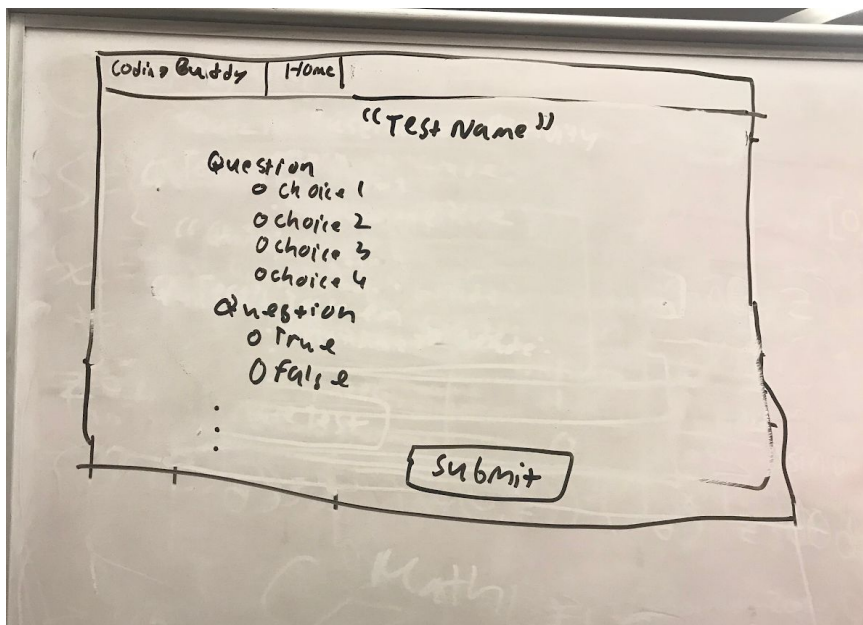
New User sign up



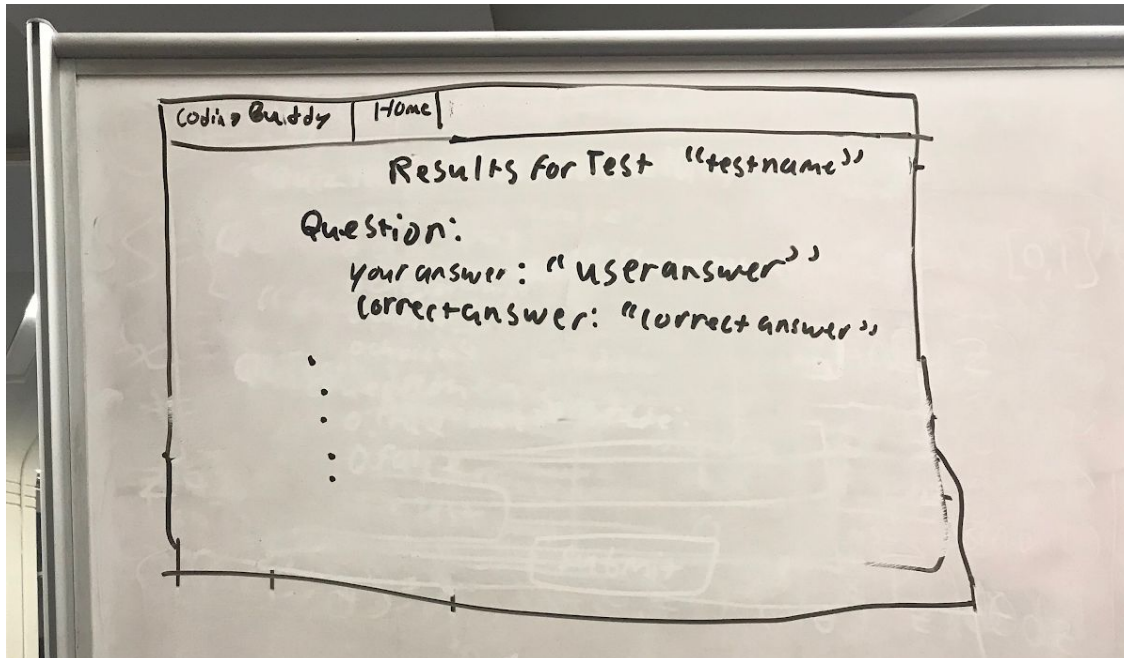
User Home Page



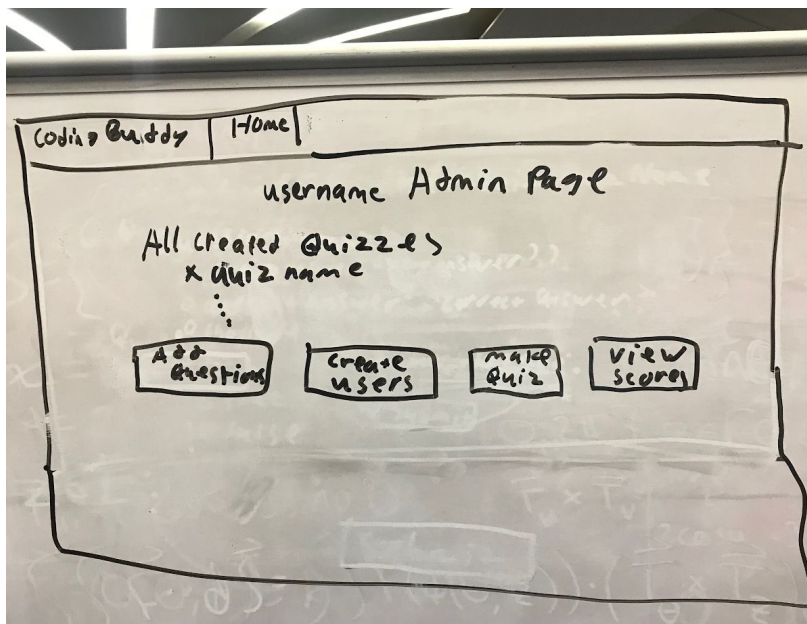
User Test Page



User Quiz Result Page



Admin Home Page



Add Multiple Choice question

Coding Buddy | Home

Question Bank

• Multiple Choice ☐ True False ☐ LS

Question

- choice1
- choice2
- choice3
- choice4

Question	Answer	Question Type	
we are in what class	Software Engineering	M/C	X Edit

Add True False question

Coding Buddy | Home

Question Bank

☐ Multiple Choice ☒ True False ☐ LS ✓

Question

☐ True
☐ False

Question	Answer	Question Type	
we are in what class	Software Engineering	M/C	X Edit

Add questions for csv

The sketch shows a web interface for a 'Question Bank'. At the top, there is a navigation bar with 'Coding Buddy' and 'Home' links. Below the navigation bar, the title 'Question Bank' is centered. Under the title, there are three radio buttons: 'Multiple Choice', 'True False', and 'CSV', with 'CSV' being selected. To the left of the 'Submit' button is a 'Choose a file' button. Below these buttons is a 'Submit' button. At the bottom, there is a table with four columns: 'Question', 'Answer', 'Question Type', and an action column. The first row of the table contains the text 'we are in what class', 'Software Engineering', 'M/C', and a link 'x Edit'.

Question	Answer	Question Type	
we are in what class	Software Engineering	M/C	x Edit

Create New User Accounts as Admin

The sketch shows a web interface for creating a new user. At the top, there is a navigation bar with 'Coding Buddy' and 'Home' links. Below the navigation bar, the title 'Create a new user' is centered. Under the title, there are three input fields: 'username', 'password', and 'Re-type password'. Below these fields is a checkbox labeled 'Do you want this user to be an admin'. At the bottom, there is a table with two columns: 'Username' and 'isAdmin'. The first row of the table contains the text 'Jeff Yates' and '1'. The second row of the table contains the text 'Richard Thomas' and '0'.

Username	isAdmin
Jeff Yates	1
Richard Thomas	0

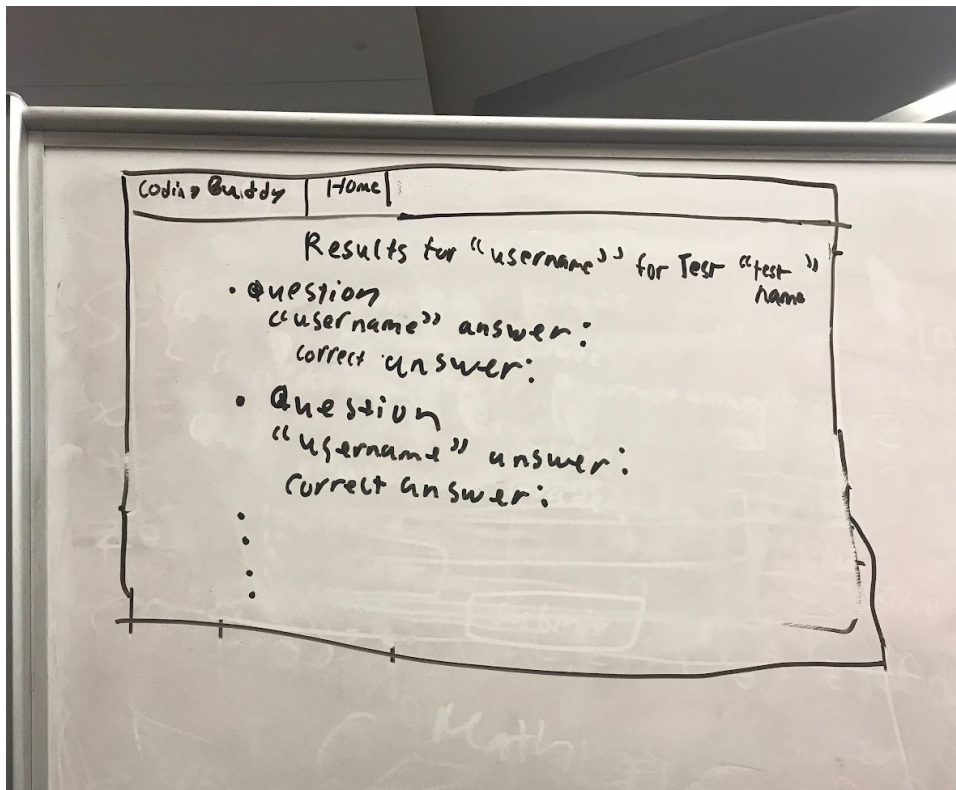
Create a new exam

A hand-drawn UI sketch for a web application. At the top, there is a header bar with two tabs: 'Coding Buddy' and 'Home'. Below the header, the text 'Create Test title and select questions from Test List' is written. Underneath this text is a rectangular input field labeled 'Enter test title here'. Below the input field is a box labeled 'Test basic' containing a list of items, each preceded by a radio button: 'Question', 'Question', and an ellipsis '...'. At the bottom of the sketch is a button labeled 'Create Test'.

See Results of test users for test's

A hand-drawn UI sketch for a results page. At the top, there is a header bar with two tabs: 'Coding Buddy' and 'Home'. Below the header, the text 'cTest name'' is written. Underneath this text is a list of items, each preceded by a bullet point: '• "username" Grade:', '• "username" Grade:', 'cTest name'', '• "username" Grade:', and '• "username" Grade:'. Below the list is an ellipsis '...'. At the bottom of the sketch is a button labeled 'Submit'.

See Test users answers for a certain Test



Product BackLog

Essential => Very Important => Moderate => Not important/Optional

ID	Story	Priority
0	As an Admin user, I want access to a test bank to add/ delete/ edit my questions and the answers of those questions too	Essential
1	As an admin user, I want to be able to view all tests users have taken and click a link to their results with correct answers	Essential
2	As an admin user, I want to be able to create a test by selecting questions from the test bank	Essential
3	As an admin user, I want to be able to create T/F questions	Essential
4	As an admin user, I want to be able to create a multiple choice question	Essential
5	As a Dev, I need a database server to query and place my data in.	Essential
6	As a user, I would like to give feedback to the devs based on my user experience.	Not Important/ Optional
7	As an admin user, I want to be able to add images to my questions from the web or from my device	Essential
8	As a user, I would like to share my tests with my friends by sending them the link.	Not Important/ Optional
9	As a user, I would like to be able to take the test even when my internet connection runs out.	Moderate
10	As a user, I would like to be able to quit the test and be able to reopen it from where I left off	Very Important
11	As a user, I would like my password to be encrypted.	Not Important/ Optional
12	As an admin, I would like to be able to edit the test scores	Not Important/ Optional

13	As an admin user, I would like to have the test questions randomized	Moderate
14	As an admin user, I'd like to set a timer for the number of time users are allowed to take.	Very Important
15	As a user, I would like to see how much time I have left to take the quiz.	Very Important
16	As an admin user, I would like to add a password for users to have them get into my test.	Very Important
17	As an admin user, I would like for the test to be open at a certain time.	Moderate
18	As an admin user, I would like to disable/enable a user from clicking/going out of the test tab to other tabs.	Not Important/ Optional
19	As an Admin user would like to upload a file with questions and answers to the test bank	Essential
20	As an Admin user, I would like for the user to experience a clean UI and UX	Essential
21	As an Admin User, I would like to implement all the quiz questions with all possible answers.	Essential
22	As an admin user, I want to be able to add users to the admin group and manage permissions of the user group	Essential
23	As a user, I should be able to view a score report after my exam is completed so i can see my score	Essential
24	As a user, I should be able to see what tests I have taken	Essential
25	As an admin, I want to view who is currently taking the test	Moderate
26	As an admin, I want to be able to add hints to questions	Not Important/ Optional
27	As an admin, I want to be able to unschedule/ reschedule a test	Moderate
28	As a dev, I want to be able to compare user input to my database	Essential

29	As a dev, I want to have a table in my database for users	Essential
30	As a dev, I want a table in my database for questions so I can select them	Essential
31	As a dev, I want a table in my database for permissions so I can manage what group can do what	Essential
32	As an admin, I would like to be able to view/change the answer for a question in the list of questions	Very Important
33	As an admin, I would like to be able to edit a question and the answers without redoing the text	Moderate
34	As a dev I need to create a server which can handle routing to pages	Essential
35	As a dev I need to make an ERD for the database	Essential

Deployment Plan:

- **Summary of deployment:**
 - Deployed on Amazon Web Services
 - Deployed as EC2 instance under the elastic beanstalk service
 - Running using a MySQL Database on RDS
 - Deployment was done by uploading a .zip file containing package.json, as well as all other pertinent files to AWS
 - AWS spun up an instance of the environment using the node.js preconfigured settings
- **Deployment goals:**
 - Produce a working link or domain in order to access the application
 - Be able to use the application on any machine, not just local machines
 - Use a cloud-based database to store usernames, etc
- **Communication plan:**
 - The team members will communicate via messenger chat before, and after deployment
 - When deployment is taking place, team members will be in the same room
- **Issue tracking:**
 - Amazon Web Services provides logs during, and after, deployment. These will be accessed and documented.
- **Backout plan:**
 - Should an issue arise during the scheduled deployment, we will halt deployment, and reinstate the previous version
 - We will then administer testing on the new version to determine the error.
 - Should there be a problem with the new version that will not be quick fix, the team will schedule another deployment

Maintenance Plan:

- **Database Maintenance:**

- The team will run a monthly check on all users in the Database
- Any user who has been inactive for over 12 months will be eliminated from the database
 - We determine inactivity for Test users by seeing the test that they need to take pile up and the test they have taken stay the same over the course of 12 months.
 - We determine inactivity for Admin users by Admin users not making any new test or deleting any test within the 12 months.
 - Users will be manually removed from database.
- The user will be notified that their account is about to be terminated one week before termination.

- **Webpage Maintenance:**

- When current web browsers get updated there will be a Quality Assurance Test issued on Coding buddy to if the new updates have affected the product in anyway.
 - The user interface will be analyzed for all pages on both Test User and Admin User every time each web browser has an update.
 - All test cases from the test plan will be run again to see if any functionality has been affected by update.
- Should any errors arise, the product owner will hold a meeting with the stakeholders to discuss issues and if solutions should be implemented pending on budget.
- Project stakeholder will be responsible for addition of new features