

# SW Engineering CSC648/848 Spring 2021

Docupaxx

Team 7

Milestone 2

4/1/21

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Milestone Version	Date of Submission
M2V1	4/1/21
M1V2	3/11/21
M1V1	3/5/21

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## 1. Data Definitions V2

**i. Unregistered User** - An individual who has not created an account, and has the ability to create one. The Unregistered user can browse through the website and view the information of various organizations that are partnered with Docupaxx. They also have the ability to take a quiz, but not be able to see their results until they make an account and make a one time payment. Separate from making an account, when Unregistered Users arrive on the homepage, they have an option to sign up to a mailing list, and those Unregistered Users can receive Docupaxx's newsletter.

**ii. Individual User** - An individual who has created an account on the site using a valid e-mail address, password and username. Using the account created, an individual user will be able to access the main features of our site and have the option to receive the newsletter.

**iii. Organization** - Teams that want to use our site to get the documents required for applications from applicants. Organizations will have one organization leader, many organization members, an organization page, and an organization package list.

*a. Organization Members [Anna]*- Organization Members are users invited by the organization lead. They are managed by the Organization Lead. These users will review submissions made by applicants, make comments and give feedback on the submissions.

*b. Organization Lead [Can]* - The most authorized Organization Member of each team. The account of this user will be created while the organization is created by site's admins, and it will be able to invite the other organization members to the organization from this account. With the privileges given to this user, the organization will be able to create the list of documents requested for application, or modify the created list.

*c. Organization Page [Kyle]* - A web page containing information about an organization.

Includes a brief description of the organization, the organization's contact information, and the list of packages an organization has for applicants to fill out.

*d. Organization Package List* - A list that contains organization's predefined packages to be seen by the Individual Users and represents all types of applications supported.

**iv. Admin** - The Admin has full access to modification powers in the database, while being able to edit and organize the different packages. They have special credentials to login in which gives them administration privileges on the website. An Admin handles administrative and security issues, such as managing data, removing users and content that does not comply with our policies.

**v. Package** - A Package is a collection of many documents. Registered users are able to access their packages and send them to the organizations they are applying to. They can also have personal packages where their data is stored in an organized way in which they can easily access the documents when needed.

**vi. Application Requirements Package (ARP)** - ARP represents all of the requirements for an application that a given organization offers. It contains an application name that will be used to identify the application the package is for, and a description that describes in further detail the requirements of the application. The ARP also contains Application Requirements (AR).

a. *Application Requirement (AR) [Vi]* - Application Requirement represents the specific document required for a given Application Requirement Package. Application Requirement will appear as an individual entry in the ARP. And, ARP itself can consist of many Application Requirement entities (ARs).

**vii. Comment** - Comments are feedback that will be given to the registered user on problems with their applications by Organization members and lead.

**viii. Reminde** - This feature is a notification that will remind the registered user to upload their documents before the deadline.

**ix. Document** - Documents are confidential information files that are stored in the system.

Uploaded Documents should be in consistent format such as PDF, JPEG, JPG, PNG so that the system will easily recognize and process. Each document size should not exceed 1 GB because it might overload the storage.

**x. Quiz** - Quiz is the set of questions for the registered user to retrieve package application requirements. The purpose of the quiz is to let the system know the intent of the user using the website, which will help determine what the next steps are for the user to get started.

- a. *Question* - Question represents a question presented to the user during a quiz. Each question will be answered through a Dropdown Search Bar or a Multiple Choice format. Depending on the answer for each previous question, the choices for the next question is dependent on that answer.

**xi. Application Type** - Application type consists of college admission, driver license application, and identification application. This represents the intent of the applicant using Docupaxx to transfer files, and documents.

**xii. Applicant** - Represents a registered user who has sent in a package that fulfills the APR of a specific Organization.

**xiii. Device** - A Device is a machine that is capable of accessing the web page and logging in.

**xiv. Account** - An entity created by a user which has access to different functionalities in the website. On account creation, depending on account type, a one time fee or monthly payment will be required.

**xv. Account type** - An account will have one and only one account type, which will allow each user to have different permissions.

- a. *Individual User* - An account that can store documents, create packages, and apply to organizations. This account type should pay one time fee when registering.
- b. *Organization Member* - An account that can view and download packages sent to an organization.
- c. *Organization Lead* - An account that can change the APR for the organization. This account can also view and download packages sent to an organization. This account type should pay a monthly fee for the organization to keep using the website.

**xvi. Profile** - An Account's Profile shows information about the User or Organization Member/Lead. They can display any information that feels relevant to them.

- a. *Username/Real Name* - An Individual user can set up a username for public display. The user has the option to use their real name or remain anonymous, based on their public preference.
- b. *Bio* - The Bio for an organization member shows their affiliation with their organization. An Organization Member/Lead can write a brief description describing themselves. This will be able to be seen by other users. Individual Users, on the other hand, would not have a use for a Bio.
- c. *Picture* - A Profile Picture to augment User Experience. Uploading a profile picture is optional, and a default will be provided to a user upon registering.
- d. *Contact Information* - An Organization member can write their contact information for users to be able to reach them personally. Individual users have the option to display their contact information as well, if they want organizations to contact them.

**xvii. Password** - A Password entity is tied to an Account. This information is useful for tracking when a password was last changed. The password contains the encrypted password text, as well as the date the password was last modified.

**xix. Chat** - The Chat is a list of Chat Messages inside a conversation between the Individual User's account to an Organization Lead/Member's account.

*a. Chat List [Anna]* - A list of previous Chats from the Individual User's account to an Organization Lead/Member's account. This is so that the Individual User and Organization Lead/Member can preview their conversations.

*b. Chat Message* - The Chat Message is an individual message that is in the Chat between the Individual User's account to an Organization Lead/Member's account. A Chat message has a recipient, a sender, and the time of sending. Chat messages between Individual Users and the Organization's Member/Lead will be stored in the database. Since these conversations are stored in the database, this is available for the Individual Users and the Organization Member/Leads to refer back to the messages as a history.

**xx. Customer Service** - A support team from Docupaxx that helps all types of Users with any technical difficulties regarding the website.

**xxi. Address** - Represents an address. All entities that have address information are linked to an Address entity. Addresses are used to help categorize various Organizations by location.

**xxii. Newsletter** - A Newsletter is an email sent to users to inform updates on our website. The users that receive the newsletter are unregistered users who have inputted their email and signed up for the newsletter, as well as individual users that have enabled newsletter notifications.

## Priority 1

### **i . Unregistered User**

1. Unregistered users shall be able to navigate to the registration page.
2. Unregistered users shall be able to create an account.
3. Unregistered users shall be able to know what features are included on Docupaxx.
4. Unregistered users shall be able to navigate to an Organization's page.
5. Unregistered users shall be able to navigate between supportive pages.
6. Unregistered Users shall be able to take a quiz.
7. Unregistered Users shall be able to skip a quiz.

### **ii . Individual User**

8. Individual users shall be able to sign into the website.
9. Individual users shall be able to log out from the website.
10. Individual users shall be able to create a new Package.
11. Individual users shall be able to see their own Packages.
12. Individual users shall be able to remove their own Packages.
13. Individual users shall be able to give a name to a Package.
14. Individual users shall be able to select predefined Packages.
15. Individual users shall be able to attach a Document to Packages.
16. Individual users shall be able to remove Documents from Packages.
17. Individual users shall be able to remove Documents from the website.
18. Individual users shall be able to rename Packages.
19. Individual users shall be able to download any Package to the device.



20. Individual users shall be able to rename Documents.
21. Individual users shall be able to mark a required Document as ready.
22. Individual users shall be able to mark a Package as their favorite Package.
23. Individual users shall be able to see when a Package is created.
24. Individual users shall be able to search between Packages by title.
25. Individual users shall be able to search between Documents by title.
26. Individual users shall be able to navigate to an Organization's page.
27. Individual users shall be able to send a Package to an Organization.
28. Individual users shall view Comments given to them from an Organization Lead.
29. Individual users shall view Comments given to them from an Organization Member.
30. Individual users shall be able to remove Comments given to them from an Organization Lead.
31. Individual users shall be able to remove Comments given to them from an Organization Member.
32. Individual users shall be able to modify a Package after receiving Comments.
33. Individual users shall be able to get a notification if they receive any feedback for the Packages they sent.
34. Individual users shall be able to view their own Packages sent to an Organization.
35. Individual users shall be able to take a quiz.
36. Individual users shall be able to skip a quiz.
37. Individual users shall be able to view a list of organizations.
38. Individual users shall be able to navigate between supportive pages.

### **iii. Organization**

- 39. An organization shall have a name.
- 40. An organization shall have an Organization Lead.
- 41. An organization shall have Organization Members.
- 42. An organization shall have it's own page.
- 43. An organization shall be able to have predefined Application Package Requirements.
- 44. An organization shall be able to receive submitted Packages.

### **iv. Organization Lead**

- 45. An Organization Lead shall be able to sign into the website.
- 46. An Organization Lead shall be able to log out from the website.
- 47. An Organization Lead shall be able to modify the organization's page.
- 48. An Organization Lead shall manage only one Organization.
- 49. An Organization Lead shall be able to invite Organization Members to the organization.
- 50. An Organization Lead shall be able to create Application Package requirements.
- 51. An Organization Lead shall be able to modify Application Package requirements.
- 52. An Organization Lead shall be able to delete Application Package requirements.
- 53. An Organization Lead shall be able to view submitted Packages.
- 54. An Organization Lead shall be able to download submitted Packages.
- 55. An Organization Lead shall be able to search for Package by Applicant name.
- 56. An Organization Lead shall be able to comment on submitted Packages.
- 57. An Organization Lead shall be able to navigate to an Organization's page.
- 58. An Organization Lead shall be able to navigate between supportive pages.

## **v . Organization Member**

- 59. Organization members shall be able to sign into the website.
- 60. Organization members shall be able to log out from the website.
- 61. Organization members shall be able to view submitted Packages.
- 62. Organization members shall be able to search for Packages by Applicant name.
- 63. Organization members shall be able to comment on submitted Documents.
- 64. Organization members shall be able to comment on submitted Packages.
- 65. Organization members shall be able to download submitted Packages.
- 66. Organization members shall be able to see a notification if there is a new comment on a submitted Package.
- 67. Organization members shall be able to navigate to an Organization's page.
- 68. Organization members shall be able to navigate between supportive pages.

## **vi . Admin**

- 69. An Admin shall be able to sign into the website.
- 70. An Admin shall be able to log out of the website.
- 71. An Admin shall be able to add an Organization to the website.
- 72. An Admin shall be able to remove an Organization from the system.
- 73. An Admin shall be able to assign an Organization Lead to an Organization.
- 74. An Admin shall be able to remove an Organization Lead from an Organization.
- 75. An Admin shall be able to invite an Organization Member to an Organization.
- 76. An Admin shall be able to remove an Organization Member from an Organization.
- 77. An Admin shall be able to navigate to an Organization's page.
- 78. An Admin shall be able to navigate between supportive pages.

## **vii. Document**

- 79. A Document shall be owned by an Individual User.
- 80. A Document shall be able to have its title modified.
- 81. A Document shall be able to be downloaded by an Individual User.
- 82. A Document shall be able to be downloaded by an Organization Member.
- 83. A Document shall be able to be downloaded by an Organization Lead.
- 84. A Document shall be able to be removed from the website by its owner.

## **viii. Package**

- 85. A Package shall be able to have its title modified.
- 86. A Package shall be able to contain many Documents.
- 87. A Package shall be able to contain zero or many Comments.
- 88. A Package shall be submitted by an Individual User.
- 89. A Package shall be able to be viewed by an Individual User.
- 90. A Package shall be able to be viewed by an Organization Member upon submission.
- 91. A Package shall be able to be viewed by an Organization Leader upon submission.
- 92. A Package shall be able to be downloaded by an Individual User.
- 93. A Package shall be able to be downloaded by an Organization Member upon submission.
- 94. A Package shall be able to be downloaded by an Organization Leader upon submission.

## **ix. Application Requirement Package**

- 95. An Application Requirement Package shall be able to be created by an Organization Lead.
- 96. An Application Requirement Package shall be able to be modified by an Organization Lead.

- 97. An Application Requirement Package shall contain many Application Requirements.
- 98. An Application Requirement Package shall be able to have their list of Application Requirements displayed.
- 99. An Application Requirement Package shall be viewed by Individual User after taking the quiz.

#### **x. Application Requirement**

- 100. An Application Requirement shall be able to be created by an Organization Lead.
- 101. An Application Requirement shall be able to be modified by an Organization Lead.
- 102. An Application Requirement shall be able to be deleted by an Organization Lead.
- 103. An Application Requirement shall be able to be viewed by an Individual User.
- 104. An Application Requirement shall be able to be viewed by an Organization Member.
- 105. An Application Requirement shall be able to be compared to a submitted Document to check that it satisfies the requirement.

#### **xi. Comments**

- 106. Comments shall be given by Organization Members to Individual Users' submitted Packages.
- 107. Comments shall be given by Organization Lead to Individual Users' submitted Packages.

#### **xii. Quiz**

- 108. Quiz shall contain many questions
- 109. Quiz shall be able to be taken by Unregistered Users.
- 110. Quiz shall be able to be taken by Individual Users.
- 111. Quiz shall be able to be taken as many times desired.
- 112. Quiz shall display results.

- 113. Quiz shall show Application Package Requirements according to certain organizations.
- 114. Quiz shall let the user know what organizations match their intentions.
- 115. Quiz shall be able to be skipped by an Unregistered User.
- 116. Quiz shall be able to be skipped by a Registered User.

### **xiii. Question**

- 117. Question shall be in multiple choice format.
- 118. Question shall be in drop down format.
- 119. Question shall denote the type of search done for the choices to the next Question.
- 120. Question after shall depend on the previous question answered by the User.
- 121. Question shall be displayed in a Quiz.
- 122. Question shall be viewed by Unregistered User.
- 123. Question shall be viewed by Individual User.
- 124. Question shall be answered by Unregistered User.
- 125. Question shall be answered by Individual User.
- 126. Question shall be created by Admin
- 127. Question shall be modified by Admin.

### **xiv. Device**

- 128. Device shall be able to connect to the Website.
- 129. Device shall be logged in by the User.

### **xv. Account**

- 130. Account shall be created by a user.
- 131. Account shall have one and only one type.
- 132. Account shall require one time fee payment if created by an Individual User.

- 133. Account shall require a monthly fee for organization account.
- 134. Account shall have access to different functionalities depending on the Account Type.

#### **xvi. Account Type**

- 135. Account type is Individual User, Organization Lead, or Organization Member.
- 136. Account Type denotes what an Account has access to.
- 137. Account Type denotes what functionalities an Account can perform.

#### **xvii. Password**

- 138. Password shall contain at least one special letter.
- 139. Password shall contain at least one number digit.
- 140. Password shall contain at least one lowercase letter.
- 141. Password shall contain at least one uppercase letter.
- 142. Password shall be at least 8 characters long.
- 143. Password shall allow a user to login to their account.

#### **xviii. Organization Page**

- 144. Organization Page shall be able to be modified by Organization Lead.
- 145. Organization Page shall be able to be viewed by Organization Members.
- 146. Organization Page shall be able to be viewed by Organization Lead.
- 147. Organization Page shall be able to be viewed by an Individual User.
- 148. Organization Page shall contain the Organization's Contact Information.
- 149. Organization Page shall show a list of Organization's members.
- 150. Organization Page shall show the Organization's Organization Package List.

#### **xix. Organization Package List (OPL)**

- 151. Organization Package List shall contain organizations' predefined packages.

- 152. Organization Package List shall be viewed by an Individual User.
- 153. Organization Package List shall be viewed by an Organization Member.
- 154. Organization Package List shall be viewed by an Organization Lead.
- 155. Organization Package List shall be created by an Organization Lead.
- 156. Organization Package List shall be modified by an Organization Lead.

**xxi. Address**

- 157. Address shall categorize Organizations by city in the main Quiz.
- 158. Address shall categorize Organizations by state in the main Quiz.
- 159. Address shall categorize Organizations by country in the main Quiz.



## **Priority 2**

### **i . Unregistered User**

1. Unregistered users shall be able to sign up to the newsletter.

### **ii . Individual User**

2. Individual users shall be able to modify their own profile pages.
3. Individual users shall be able to reset passwords.
4. Individual users shall be able to edit their email address.
5. Individual users shall be able to add a reminder to a Package.
6. Individual users shall be able to see the preview of a Document.
7. Individual users shall be able to comment on their own Documents.
8. Individual users shall be able to sort Packages by filters.
9. Individual users shall be able to send messages to the Organization Members.

### **iii. Organization Lead**

10. Organization Lead shall be able to modify his/her own profile page.
11. An Organization Lead shall be able to reset passwords.
12. An Organization Lead shall be able to remove Organization Members from the organization.
13. Organization Lead shall be able to report malicious document submission.
14. An Organization Lead shall be able to preview Documents inside of a submitted Package.
15. An Organization Lead shall be able to sort submitted Packages.
16. An Organization Lead shall be able to send a message to an Individual user.
17. An Organization Lead shall be able to modify own profile page.

## **iv . Organization Member**

18. Organization members shall be able to disable account.
19. Organization members shall be able to reset passwords.
20. Organization members shall be able to modify their own profile pages.
21. Organization members shall be able to report malicious document submission.
22. Organization members shall be able to preview documents in Packages.
23. Organization members shall be able to sort submitted Packages.
24. Organization members shall be able to send a message to an Individual User.

## **v. Admin**

25. An Admin shall be able to search for submitted Packages to any Organization by Applicant email.
26. An Admin shall be able to sort submitted Packages.

## **vi. Document**

27. A Document shall be able to be previewed by an Admin.
28. A Document shall be able to be previewed by an Individual User.
29. A Document shall be able to be previewed by an Organization Lead.
30. A Document shall be able to be previewed by an Organizational Member.

## **vii. Package**

31. A Package shall be able to contain many Reminders.

## **viii. Chat**

32. A Chat shall be viewed by an Individual User.
33. A Chat shall be viewed by an Organization Member.
34. A Chat shall be viewed by an Organization Lead.

- 35. A Chat List shall be previewed by an Individual User.
- 36. A Chat List shall be previewed by an Organization Member.
- 37. A Chat List shall be previewed by an Organization Lead.
- 38. A Chat shall be created by an Individual User with an Organization Member.
- 39. A Chat shall be created by an Individual User with an Organization Lead.
- 40. A Chat shall contain texts.
- 41. A Chat shall be able to be removed by Individual User.
- 42. A Chat shall be able to be removed by Organization Members.
- 43. A Chat shall be able to be removed by Organization Lead.

#### **ix. Chat List**

- 44. A Chat List shall be viewed by an Individual User.
- 45. A Chat List shall be viewed by an Organization Member.
- 46. A Chat List shall be viewed by an Organization Lead.
- 47. A Chat List shall be previewed by an Individual User.
- 48. A Chat List shall be previewed by an Organization Member.
- 49. A Chat List shall be previewed by an Organization Lead.
- 50. A Chat List shall contain Chats.
- 51. A Chat List shall allow the user to view an individual Chat.
- 52. A Chat List shall be sorted by most recent conversations first.

#### **x. Chat Message**

- 53. A message shall be able to be sent by an Individual User to an Organization Member.
- 54. A message shall be able to be sent by an Individual User to an Organization Lead.
- 55. A message shall be able to be sent by Organization Lead to an Individual User.

- 56. A message shall be able to be sent by Organization Members to an Individual User.
- 57. A message shall contain a timestamp of when the message was created.

#### **xi. Comments**

- 58. Comments shall be given by Individual User on their own Documents.
- 59. Comments shall be removed by its owner.
- 60. Comments on an submitted Package shall be removed by the Package's owner.

#### **xii. Reminders**

- 61. A Reminder shall have a title.
- 62. A Reminder shall have a due date.
- 63. A Reminder shall be created by an Individual User.
- 64. A Reminder shall be able to be linked to a Package.

#### **xiii. Application Type**

- 65. Application Type shall be a file content.
- 66. Application Type shall denote the type of requirements for an application package

#### **xiv. Profile**

- 67. Profile shall include a username/real name.
- 68. Profile shall include a Bio by Organization Lead.
- 69. Profile shall include a Bio by Organization Members.
- 70. Profile shall include Bio by Individual User.
- 71. Profile shall have a profile picture uploaded by Individual Users.
- 72. Profile shall have a profile picture uploaded by Organization Lead.
- 73. Profile shall have a profile picture uploaded by Organization Members.
- 74. Profile shall not include Contact Information by Individual Users.

- 75. Profile shall include Contact Information by Organization Lead.
- 76. Profile shall include Contact Information by Organization Members.
- 77. Profile shall show public information to other users.

#### **xv. Password**

- 78. Password shall have a timestamp on the date last changed.
- 79. Password shall be able to be changed.

#### **xvi. Newsletter**

- 80. Newsletter shall be manually enabled for Individual User.
- 81. Newsletter shall be signed up using email by Unregistered User.
- 82. Newsletter shall notify User with any updates in the website via email.
- 83. Newsletter shall be viewed by Individual User.
- 84. Newsletter shall be viewed by Unregistered User.
- 85. Newsletter shall be created by an Admin.
- 86. Newsletter shall be modified by an Admin.
- 87. Newsletter shall be deleted by an Admin.

## **Priority 3**

### **i . Unregistered User**

1. Unregistered users shall be able to translate the website.

### **ii . Individual User**

2. Individual users shall be able to disable account.
3. Individual users shall be able to translate the website.
4. Individual users shall be able to translate names of Documents.
5. Individual user shall view Comments given to them from an Admin.
6. Individual user shall be able to remove Comments given to them from an Admin.

### **iii. Organization Lead**

7. An Organization Lead shall be able to disable account.
8. An Organization Lead shall be able to translate the website.

### **iv . Organization Member**

9. Organization members shall be able to translate the website.

### **v. Admin**

10. An Admin shall be able to translate the website.
11. An Admin shall be able to create a new Package.
12. An Admin shall be able to see their own Packages.
13. An Admin shall be able to remove their own Packages.
14. An Admin shall be able to give a name to a Package.
15. An Admin shall be able to select predefined Packages.
16. An Admin shall be able to attach a Document to Packages.

17. An Admin shall be able to remove Documents from Packages.
18. An Admin shall be able to rename Packages.
19. An Admin shall be able to download any Package to the device.
20. An Admin shall be able to rename Documents.
21. An Admin shall be able to create Application Package requirements.
22. An Admin shall be able to modify Application Package requirements.
23. An Admin shall be able to delete Application Package requirements.
24. An Admin shall be able to create a Reminder.
25. An Admin shall be able to Comment on his/her own package.
26. An Admin shall be able to Comment on a submitted package.
27. An Admin shall be able to view a Chat List.
28. An Admin shall be able to view a Chat.
29. An Admin shall be able to view messages.
30. An Admin shall be able to submit a Package.
31. An Admin shall be able to view an Organization Page.
32. An Admin shall be able to modify an Organization Page.
33. An Admin shall be able to view an Organization Package List.
34. An Admin shall be able to modify an Organization Package List.

## **vi. Document**

35. A Document shall be able to be downloaded by an Admin.

## **vii. Package**

36. A Package shall be submitted by an Admin.

- 37. A Package shall be able to be viewed by an Admin.
- 38. A Package shall be able to be downloaded by an Admin.

#### **viii. Chat**

- 39. A Chat shall be viewed by an Admin.
- 40. A Chat List shall be previewed by an Admin.
- 41. A Chat shall be created by an Individual User with an Admin.
- 42. A Chat shall be able to be removed by Admin.

#### **ix. Chat List**

- 43. A Chat List shall be viewed by an Admin.
- 44. A Chat List shall be previewed by an Admin.

#### **x. Chat Message**

- 45. A message shall be able to be sent by an Admin to an Individual User.
- 46. A message shall be able to be sent by an Admin to an Organization Member.
- 47. A message shall be able to be sent by an Admin to an Organization Lead.

#### **xi. Application Requirement Package**

- 48. An Application Requirement Package shall be able to be created by an Admin.
- 49. An Application Requirement Package shall be able to be modified by an Admin.
- 50. An Application Requirement Package shall be able to be viewed by an Admin.
- 51. An Application Requirement Package shall be able to be deleted by an Admin.

#### **xii. Application Requirement**

- 52. An Application Requirement shall be created by Admin.
- 53. An Application Requirement shall be modified by Admin.
- 54. An Application Requirement shall be viewed by Admin.



55. An Application Requirement shall be deleted by Admin.

### **xiii. Comments**

56. Comments shall be given by Organization Lead to Individual Users' submitted Packages.

### **xiv. Reminders**

57. A Reminder shall be created by an Admin.

### **xv. Quiz**

58. Quiz shall be able to be taken by Admins.

### **xvi. Account**

59. Account shall be able to be disabled.

### **xvii. Profile**

60. Profile shall include a Bio by Individual User.

61. Profile shall include Profile Picture by Admin.

62. Profile shall include Contact Information by Admin.

### **xviii. Customer Service**

63. Customer Service shall consist of a team of Docupaxx staff.

64. Customer Service shall help users with technical difficulties.

65. Customer Service is accessed through a Chat.

66. Customer Service shall facilitate a conversation with an Individual User and an Admin.

67. Customer Service shall facilitate a conversation with an Organization Member and an Admin.

68. Customer Service shall facilitate a conversation with an Organization Lead and an Admin.

### **xix. Organization Page**

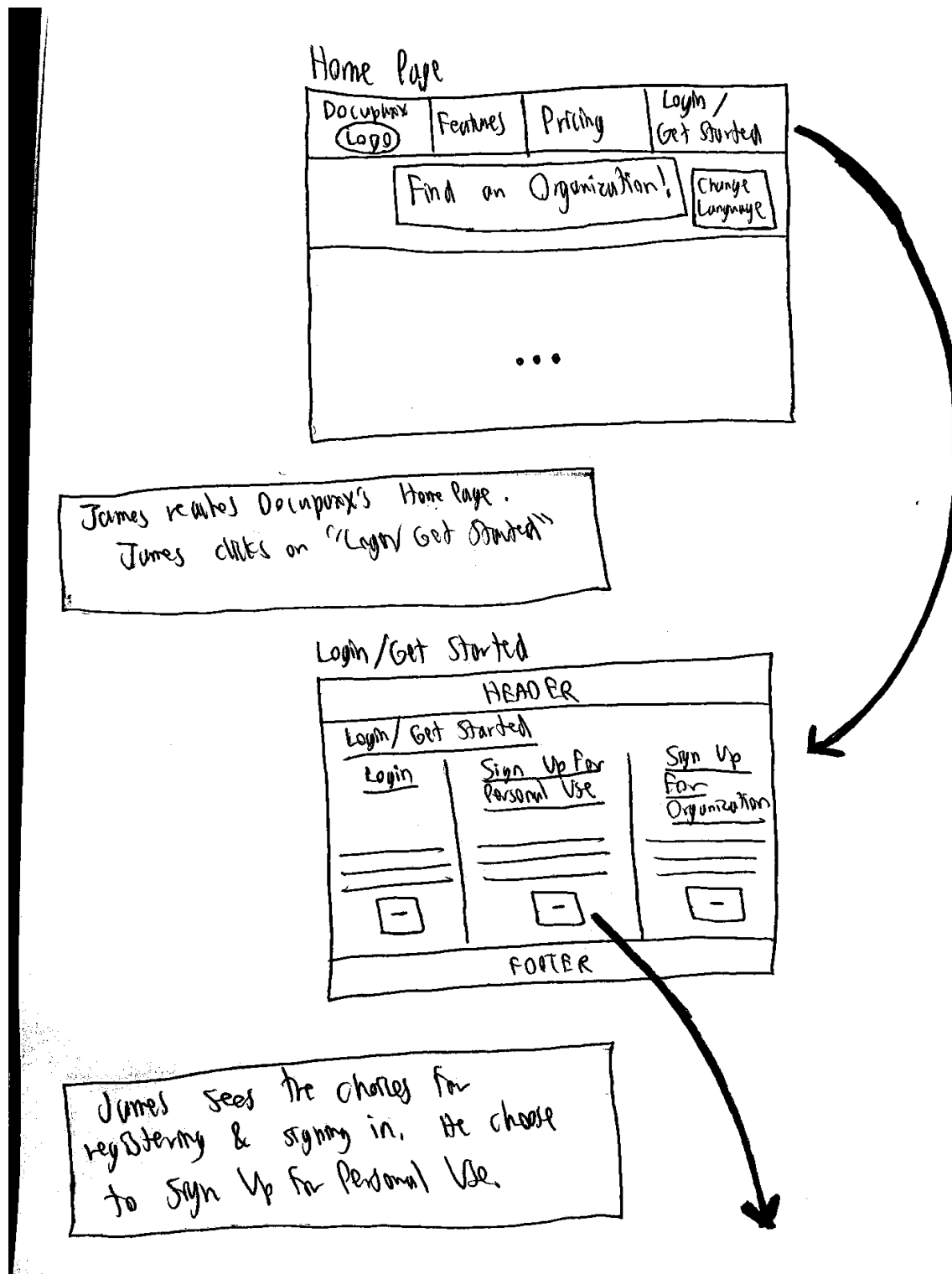
- 69. Organization Page shall be able to be modified by Admin.
- 70. Organization Page shall be able to be viewed by an Admin.

### **xx. Organization Package List (OPL)**

- 71. Organization Package List shall be created by an Admin.
- 72. Organization Package List shall be modified by an Admin.

### 3. UI Mockups and Storyboards (high level only)

#### Use Case #1 (Application Requirements):



## Sign Up For Personal Use

HEADER

Start Using DocuPass by Registering!

(Logo)

Username

...

☐ Terms of Services

Submit

FOOTER

James enters no information, checks the terms of service, & clicks "Submit".

## Sign In

HEADER

Start Using DocuPass by Logging In!

(Logo)

Username

Password

[Forgot Your Password](#)

Login

FOOTER

After signing up James is directed to the Login Page. He enters his credentials to login.

## Home Page (Signed In)

DocuPass Logo	My Dashboard	My Profile	James Sign Out
Find an Organization		Change Language	
...			

James is at the Home Page of a Signed-In Individual User. He wants to apply to SFSU so he chooses to Find an Organization.

## Quiz Prompt Page

HEADER	
Find an Organization	
Take a Quiz Now!	
Search for an Organization	Skip Quiz
FOOTER	

James is taken to a Quiz Prompt Page. He reads into about the Quiz that will help him find an Organization & takes the Quiz.

HEADER

Quiz

Question 1: ==

Un
United Arab Emirates
United Kingdom
United States

Next

FOOTER

James takes a Quiz and is faced with a series of questions, including Quiz Pages with a dropdown search Bar.

More Quiz Pages

HEADER

Quiz

Question 3: ==

Choice 1

Choice 2

Choice 3

Next

FOOTER

For questions with a small number of choices, James is faced with a Multiple Choice Question.

HEADER

Quiz

Question 4: ==

...

Get results

FOOTER

The last question James faces will prompt to show the Quiz Results. If James was Unregistered he would have to Sign-In at this point.

HEADER

San Francisco State University

Transfer Student Application:

- o Required Document 1
- o Required Document 2
- o Required Document 3

Description:

FOOTER

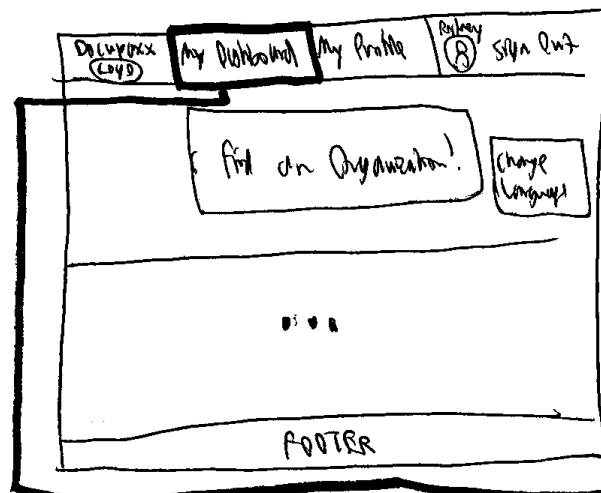
Upload Documents Here for Review

Submission

directed

Finally after taking the Quiz, James is ~~directed~~ straight to the application that applies to him. He can see the required documents to go to SF State.

## Use Case #2:



Rodney has signed up as a Personal Use user (Individual User) and wants to go to his Dashboard for organizing files.



HEADER

My Dashboard

My Packages

My Documents

My Applications

My App

My Organizations

My Chats

My Feedback

My Packages

Search My Packages

No Packages Yet!

+ New Package

FOOTER

Rodney has gone through the process of sign-up for Personal Use. Rodney is on his dashboard and wants to store files. He clicks 'New Package' to create a package of documents.

HEADER

New Package

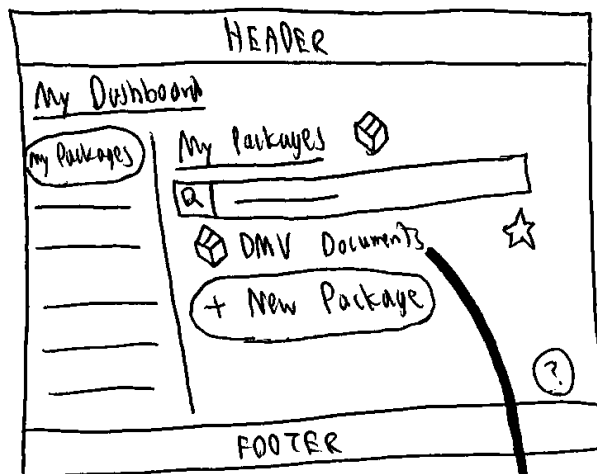
Name:

Back to Dashboard

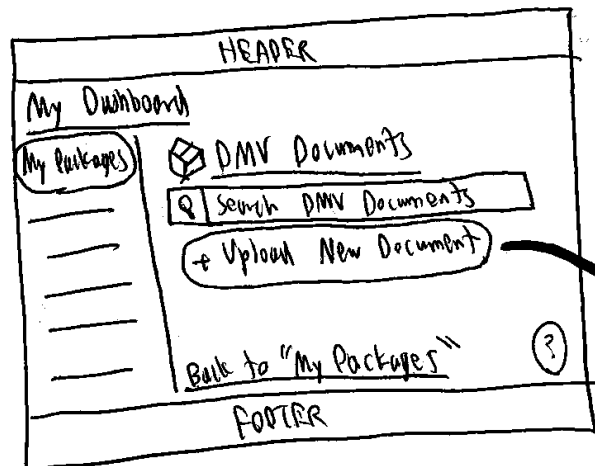
Create Package!

FOOTER

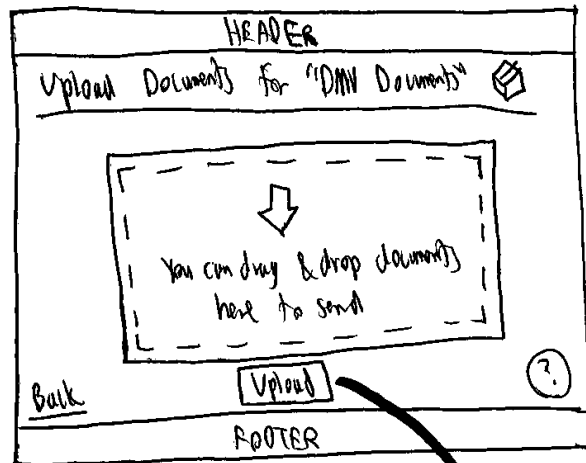
Rodney is prompted to enter a package name. He enters "My Documents" and clicks "Create Package".



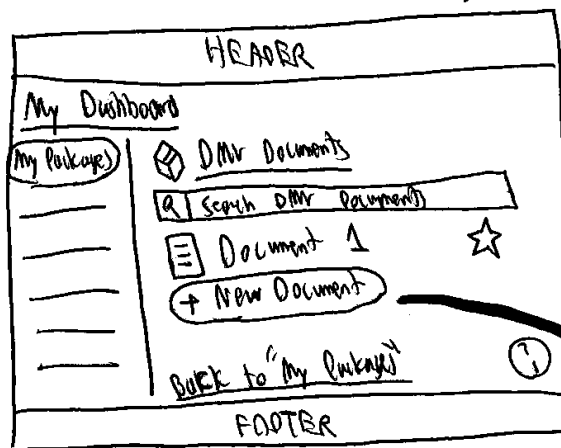
Rodney has now created a new package which can hold documents. He clicks the "DMV Documents" package to put documents in it.



~~Rodney is prompted to upload a~~  
 Rodney sees he doesn't list any "DMV Documents". There are no files, so he uploads one.

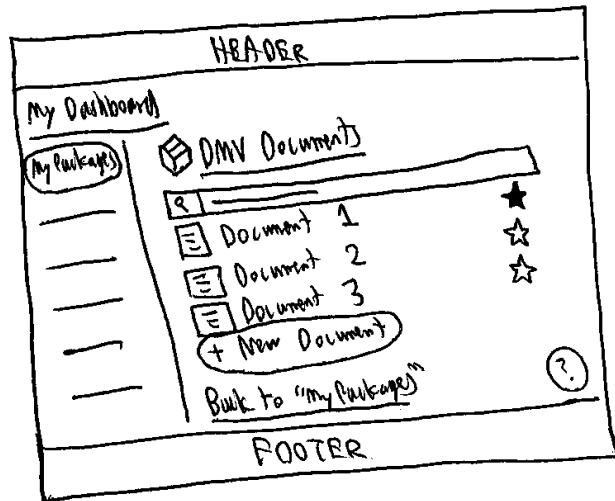


Rodney is prompted to upload a document to the package. He drags & drops a document into the box & clicks "upload".



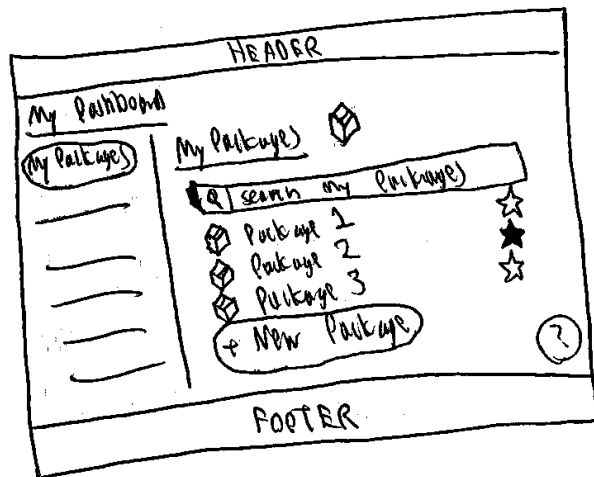
uploaded  
Rodney has ~~uploaded~~ a document but he can organize it in the "DMV Documents" package.

Rodney uploads multiple documents



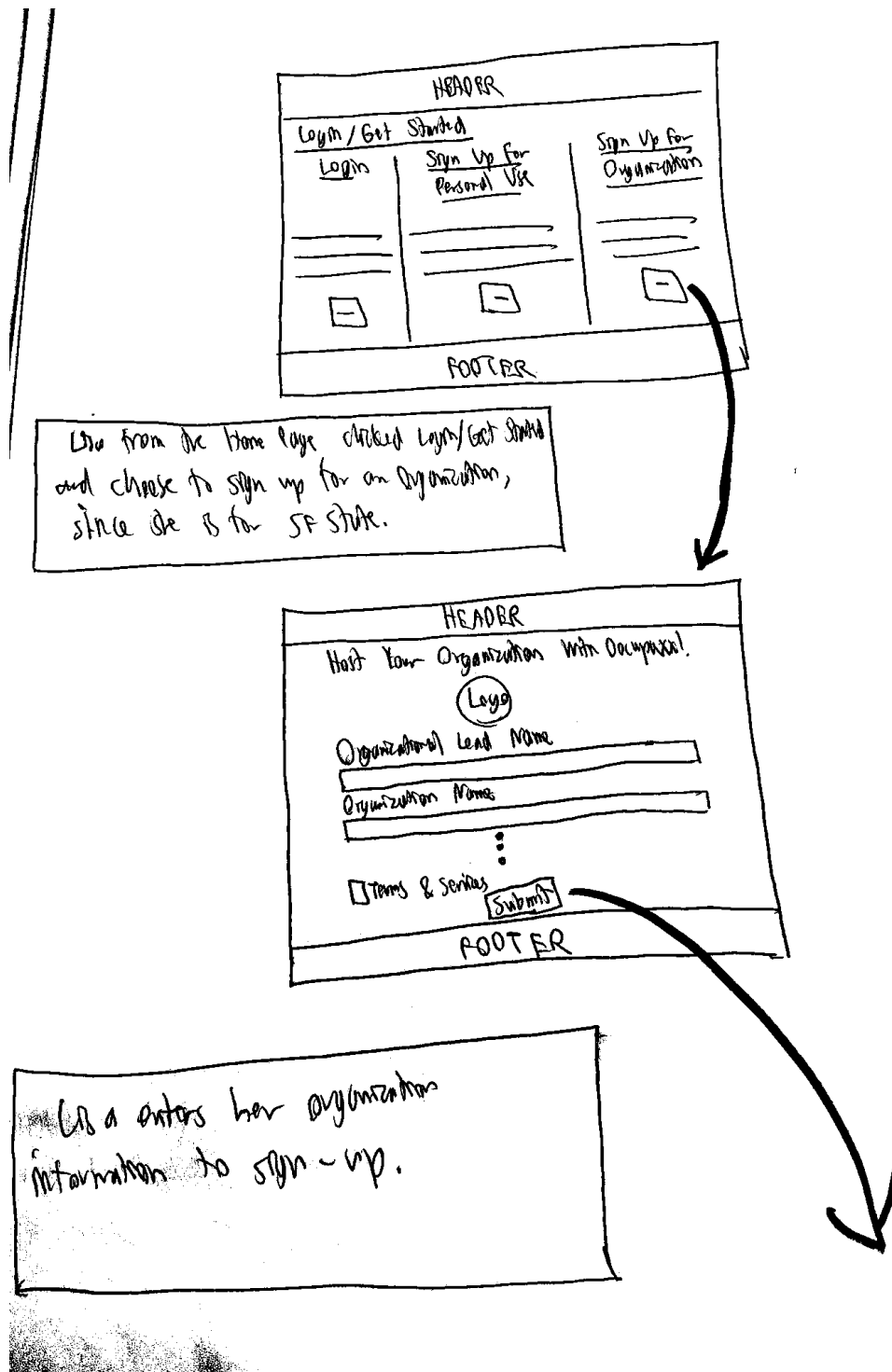
Rodney has used the Upload feature to upload multiple documents. He can now categorize these as ~~from~~ the DMV.

Makes more packages



Rodney has created new packages of documents. Now he can organize his files well.

Use Case #3 (Modifying Application Requirements):



Contact Us for Approval

Name

Org Name

Email

Description

Submit

User enters her information & the information of the Organization and submits it for contact.

User waits & gets approval from Site Admins

My Dashboard

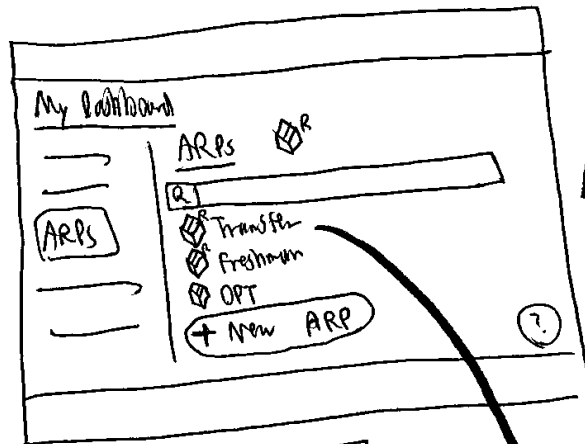
Application Requirement Packages

Application Requirement Packages

No Application Requirement Packages Yet!

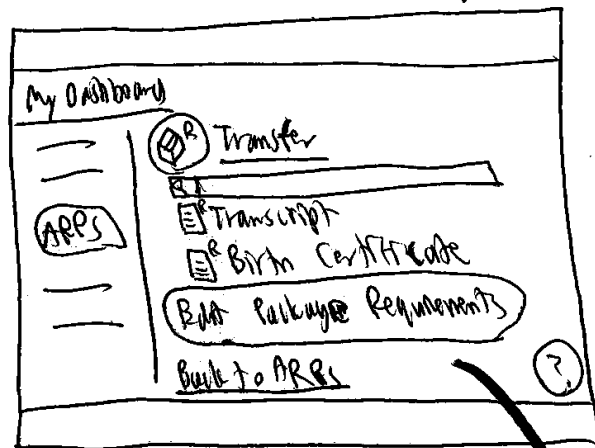
+ New Application Requirements Package

After receiving approval, User can look at Application Requirement Packages (ARPs) to make a new requirement package.




Makes more  
request packages

Lisa has been able to make several  
packages. But she wants to delete Transcript  
from the Transfer Package, as it is not  
required.



Lisa sees a lot of required  
documents. She clicks to Edit  
the Requirement Package to edit the fields

HEADER

New Application Requirements Package 


Name


Description

Required Documents

☒

☒

+ New Required Document Field [Link to Dashboard](#) 


Create Application Requirement Package! 


FOOTER


LSA is prompted to enter information about the Application Requirement Package. She enters information about a Transfer Student Package and clicks **Create!**

HEADER

My Dashboard

Application Requirements Packages 

 Transfer

+ New Application Req. Pkg. 

FOOTER

LSA has successfully created an Application Requirement Package for Transfer Student's Applications.



Modify Application Package Requirements

Name

Description

Required Documents

X Transcript

X Birth Certificate

+ New Requirement Document Field

Bulk to Dashboard

Save

ESU can modify the requirement package here. LSA deletes Transcript ~~Birth Certificate~~ by clicking the "X" button and clicks "Save".

My Dashboard

ARs

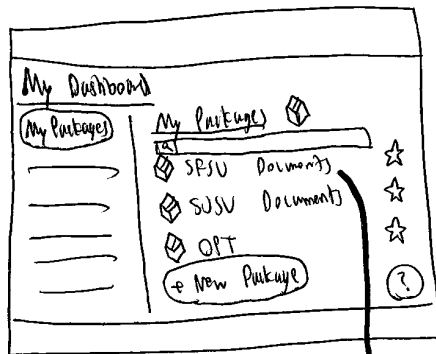
X Transcript

X Birth Certificate

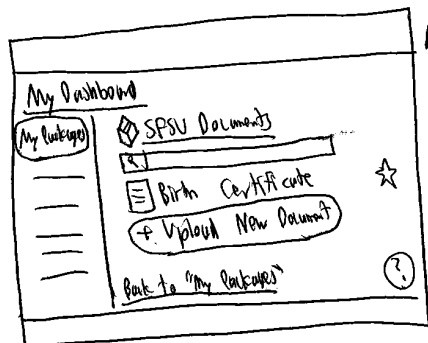
+ Edit Package Requirements

LSA has successfully changed the requirements of the Transcript Package.

#### Use Case #4 (Realtime Chat):



Harper has signed up as a user for Personal Use, has taken the Quiz to see required documents and wants to add documents to her SPSV package.



However, Harper is confused about what kind of document she has to upload. To ask about a problem, she clicks the help button.

Help Chat

<u>Customer Service</u>	<u>Help from an Organization</u>
_____	_____
_____	_____
_____	_____
<input type="button" value="—"/>	<input type="button" value="—"/>

Harper was prompted to choose whether she needed help from an Organization or Document itself. Harper needed help with a request document so she chose Organization's help.

Help from an Organization

San
San Francisco State University
San Jose State University
...

\_\_\_\_\_

Harper typed the Organization's name and wrote her note with the request document.

Chat Waiting Queue

---

There are 3 people  
in front of you  
...

Back

Hampen was put in a Waiting Queue  
to speak with an SP State Representative.

Auto Redirect

Live Chat

(A) \_\_\_\_\_ (H)

(A) \_\_\_\_\_ (H)

Thank you! (H)

SEND End Chat

Eventually Hampen was able to speak  
with Andrew, an SPSU representative, via live  
chat. Hampen was clarified on what to  
do with the requested doc.

## Use Case #5 (Feedback on Applications):

HEADER - ALVARO | Sign Out

San Francisco State University

Transfer

Upload Documents for Review/Submission

Description

FOOTER

Alvaro has rented the Transfer Application Requirement Package & wants to upload his Transcript as a supporting document but wants to review it. He Uploads it for Review.

HEADER - ALVARO | ALVARO Sign Out

Upload Documents for Review/Submission

To: SPSU

Subject:

You can drag & drop files...

OR

Choose from "My Documents"

SEND

Footer

Alvaro has signed up as a Personal User (Individual User) and has taken the QUIZ and clicks to Upload Doc for review. He sends a document(s) for review with a subject.

File Sent

Perspective Change to Martina

HEADER - MARTINA | MARTINA Sign Out

My Dashboard

Submitted Packages

Alvaro: Alvaro Transcript NEW

Submitted Packages

Martina, a part of SPSU's Occupancy Team, sees Alvaro's transcript. She clicks on it to review the document.



HEADER

Reg Alvaro's Transcript

Alvaro's Transcript	A	B

FROM: SFSU Dropout Team

You are missing a core GE course.

Send New Document!

Back

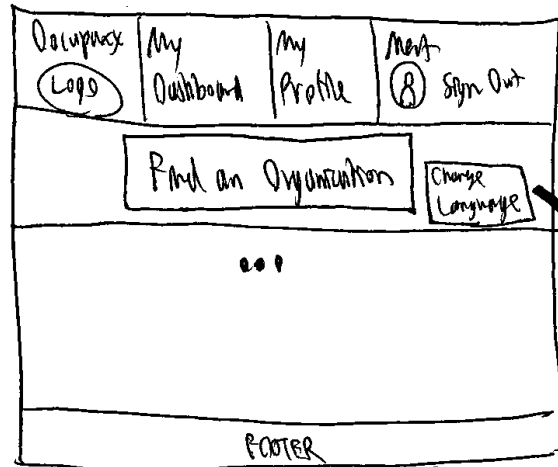
FOOTER

?

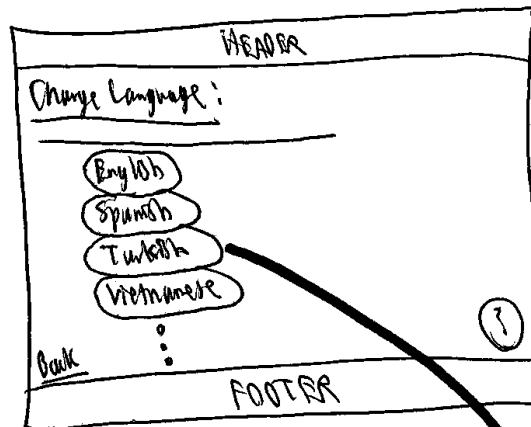
After reading the feedback Alvaro realizes he sent the wrong document and clicks Send New Document to send the right one.



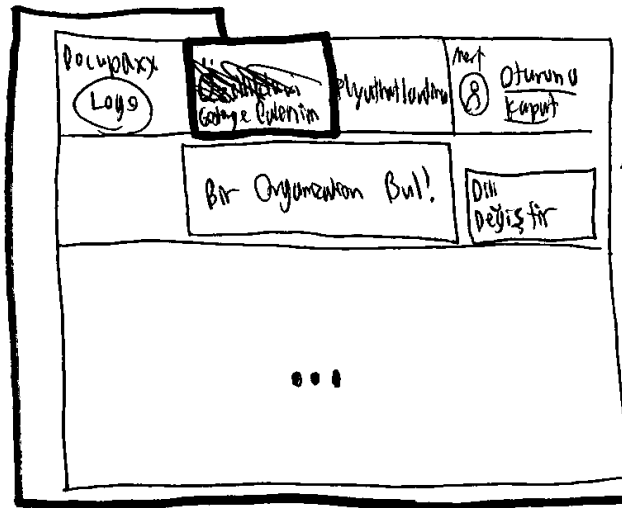
## Use Case #6 (Translation):



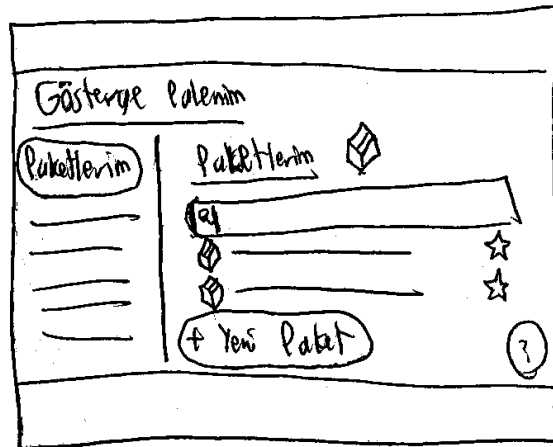
Mert has signed up into Dorupaxx and is on the Home Page. He clicks on "Change Language" to change the translation on the website.



Mert is prompted to a page so that he can change the language to Turkish by clicking "Turkish".



The home page is now translated in Turkish. Now Mert can navigate to the "My Dashboard" tab to upload his required documents.



After clicking on "My Dashboard", Mert is able to effectively show documents with all the interfaces being translated to Turkish.

#### 4. High level database architecture and organization

##### **I - DB Organization**

###### **Quiz**

1. Quiz shall contain many Questions.
2. Quiz shall be able to be taken by many Unregistered Users.
3. Quiz shall be able to be taken by many Individual Users.
4. Quiz shall show many Application Package Requirements.
5. Quiz shall be skipped by many Unregistered Users.
6. Quiz shall be skipped by many Individual Users.
7. Quiz shall have one unique quiz id.
8. Quiz shall have a description.
9. Quiz shall have its content.

###### **Question**

1. Questions shall have one unique question id.
2. Questions shall have one question description.
3. Questions shall have one question type.
4. Questions shall be contained in a quiz.

###### **Unregistered User**

1. Unregistered Users shall be able to take many quizzes.
2. Unregistered Users shall be able to skip many quizzes.
3. Unregistered Users shall have a unique unreg id.
4. Unregistered Users shall have one email.

###### **Individual User**

1. Individual Users shall have one unique registered user id.
2. Individual Users shall have one full name.

3. Individual Users shall have one email.
4. Individual Users shall be able to take many quizzes.
5. Individual Users shall be able to skip many quizzes.

#### **Application Requirement Package**

1. An Application Requirement Package shall be viewed by many Individual Users.
2. An Application Requirement Package shall belong to zero or many Organizations.
3. An Application Requirement Package shall contain many Application Requirements.
4. An Application Requirement Package shall have one unique arp id.
5. An Application Requirement Package shall have one arp name.
6. An Application Requirement Package shall have one arp description.

#### **Application Requirement**

1. An Application Requirement shall have one unique application requirement id.
2. An Application Requirement shall have one description.
3. An Application Requirement shall have one *last modified* timestamp.
4. An Application Requirement shall belong to one Application Requirement Package.
5. An Application Requirement shall be viewed by many Individual Users.

#### **Organization**

1. An organization shall have one unique organization id.
2. An organization shall have one name.
3. An organization shall have one email.
4. An organization shall have one join date.
5. An organization shall have one contact number.
6. An organization shall have many predefined Application Package Requirements.
7. An organization shall have many Addresses.

## **Address**

1. An Address shall have one unique address id.
2. An Address shall have one street.
3. An Address shall have one city.
4. An Address shall have one state.
5. An Address shall have one zip code.
6. An Address shall have one country.
7. An Address shall belong to many Organizations.

## **Entities**

### **1. Quiz (Strong)**

- Quiz\_id: key, numeric
- Quiz\_descript: alphanumeric
- Quiz\_name: alphanumeric

### **2. Questions(Weak)**

- Question\_id: key, numeric
- Question\_descript: alphanumeric
- Question\_type: alphanumeric

### **3. Unregistered User (Strong)**

- unReg\_id: key, numeric
- Email: alphanumeric

### **4. Individual User (Strong)**

- Reg\_id: key, numeric

- Full name: alphanumeric
- Email: alphanumeric

#### **5. Application Requirement Package(ARP) (Strong)**

- Req\_id: key, numeric
- Req\_last\_modified: timestamp
- Req\_description: alphanumeric

#### **6. Application Requirement (AR) (Weak)**

- Ar\_id: key, numeric
- Ar\_last\_modified: timestamp
- Ar\_description: alphanumeric

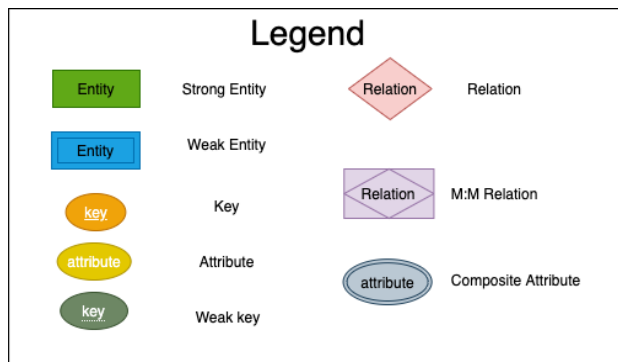
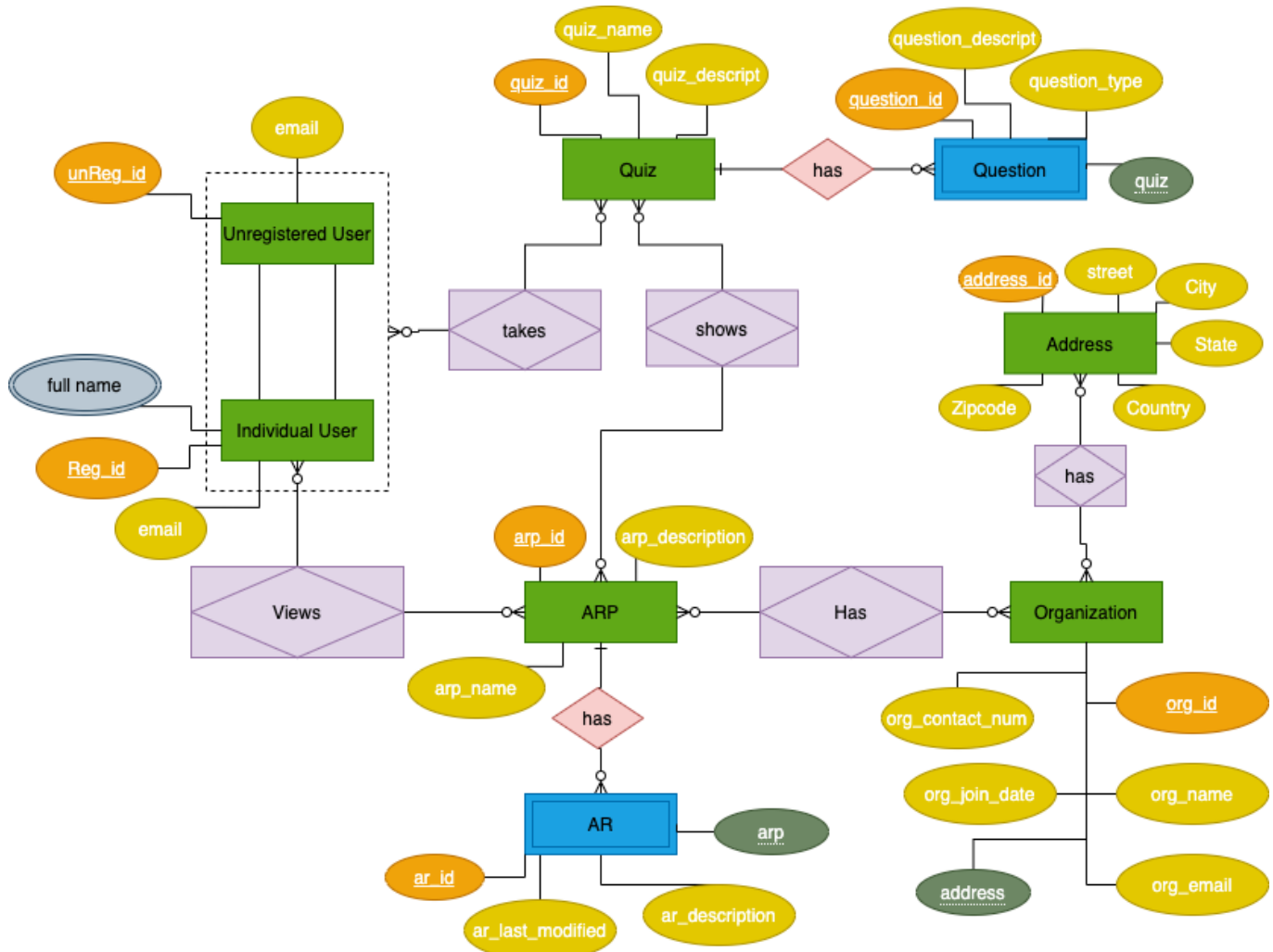
#### **7. Organization (Strong)**

- Org\_id: key, numeric
- Org\_name: alphanumeric
- Org\_email: alphanumeric
- Org\_join\_date: timestamp
- Org\_contact\_number: numeric

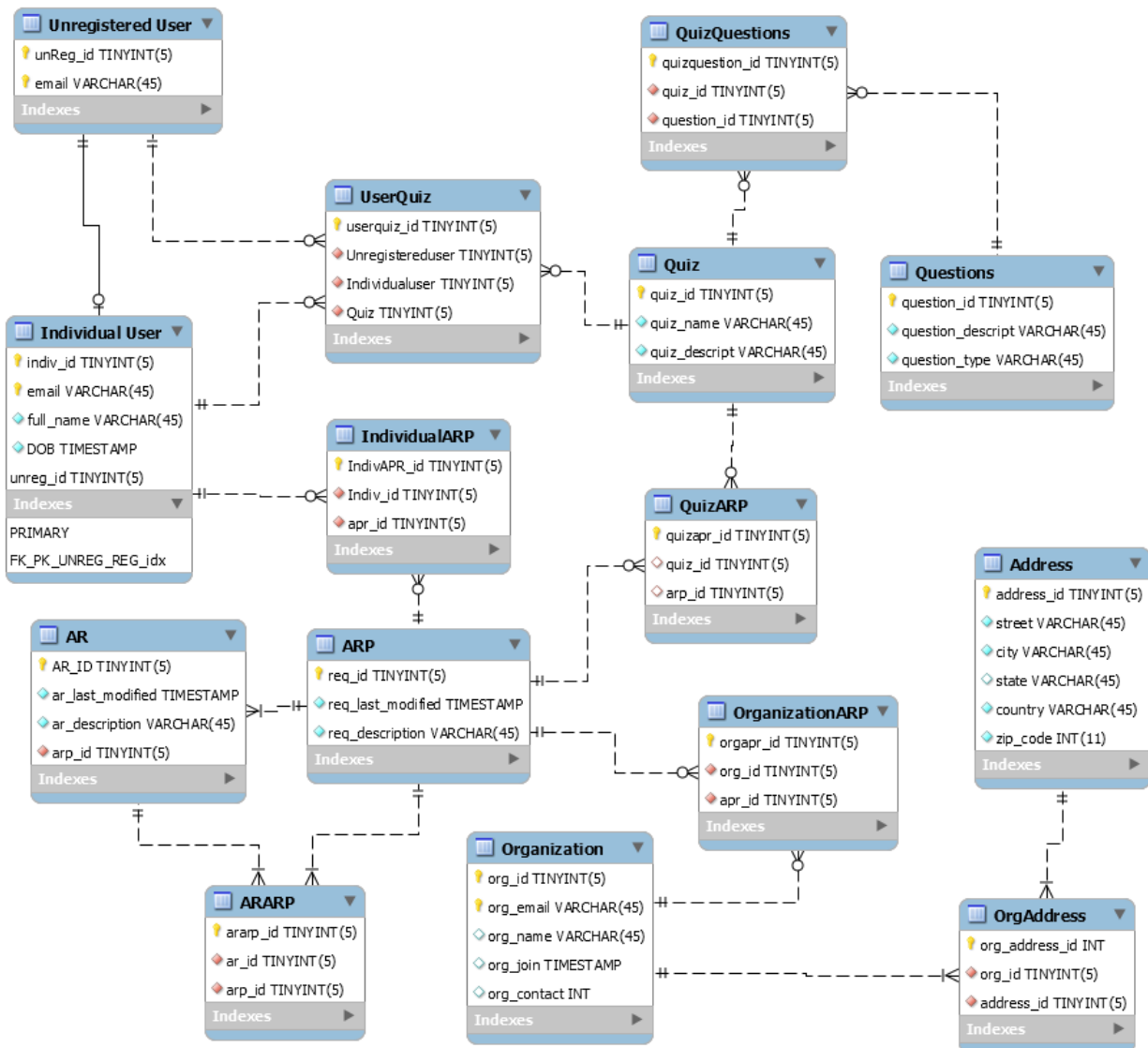
#### **8. Address (Strong)**

- address\_id : key, numeric
- Street: alphanumeric
- City: alphanumeric
- State: alphanumeric
- Country: alphanumeric
- Zip: numeric

## Entity Relationship Diagram (ERD)



## Enhanced Entity Relationship (EER)



DBMS we will be using:

**MySQL** because it is the most popular relational database system and it is easy to use.

## II - Media Storage - Will we be storing media as files or BLOBs?

Files will be accepted only in PDF format

BLOB contains images that are in PNG, JPEG, JPG,... format (various image formats).

## III - Search/Filter Architecture and Implementation



SQL queries will be used for searching purposes. The user will be able to manually search for data items that we will be using as an input for the queries, such as organization name, application type. We will query for the attributes of entities we will be sorting, i.e top 5 APR by last modified, search quiz by name, etc..

## 5. High Level APIs and Main Algorithms

### **APIs**

**Encryption API:** Each user creates a unique password when they sign up which should be encrypted before storing in the database so their information isn't compromised. When the registered user logs into the website, the encrypted password will be retrieved and checked to see if the password the user entered matches. If both of them match they will be granted access into the account and we will ensure this by creating an **encryption api**.

**Translation API:** For letting the user translate the website and documents to his dominant language we will be using (<https://cloud.google.com/translate> or <https://aws.amazon.com/translate/>) API which will make sure they are able to fill out their documents conveniently. On our website it is important for users to be able to translate their documents because english could be their secondary language and difficult for them to understand. Translation opens new doors to our users and provides additional value to individuals residing outside of their home country or whose native language is different because our reach is not limited to only one language.

**Authentication API:** Authentication should ensure that the provided login and username match with the registered user in the system. We are planning to use **multi-factor authentication** to add an extra layer of security to make sure the registered user's information isn't accessible to any other user. The user will have to verify a trusted phone number in which they will receive a code and have two layers of security when logging in.

**Chat API:** We will be using a chat API where the user is able to communicate with an organization member or organization lead in real time. They will be able to ask questions and receive feedback on any issue or concern they have. We are thinking of using socket.io which is

an easy to use API that enables real-time, bidirectional and event-based communication. We will make sure that users are able to get information they need in a timely manner and have a pleasant experience.

## **Main Algorithms**

**Sorting:** Since our users are storing and sending a lot of documents we have to provide an efficient way to organize and retrieve them. Due to its efficient time complexity, we will be using the Merge Sort algorithm to implement our sorting processes.

**Searching:** Users will be able to search for documents, packages, and organizations. They will be able to search for documents and packages by their title, and search for organizations by their name. Since our product allows users to create packages these standards will be met.

i) Search by attribute - A 'SELECT' query that obtains all entities that contain a given attribute value

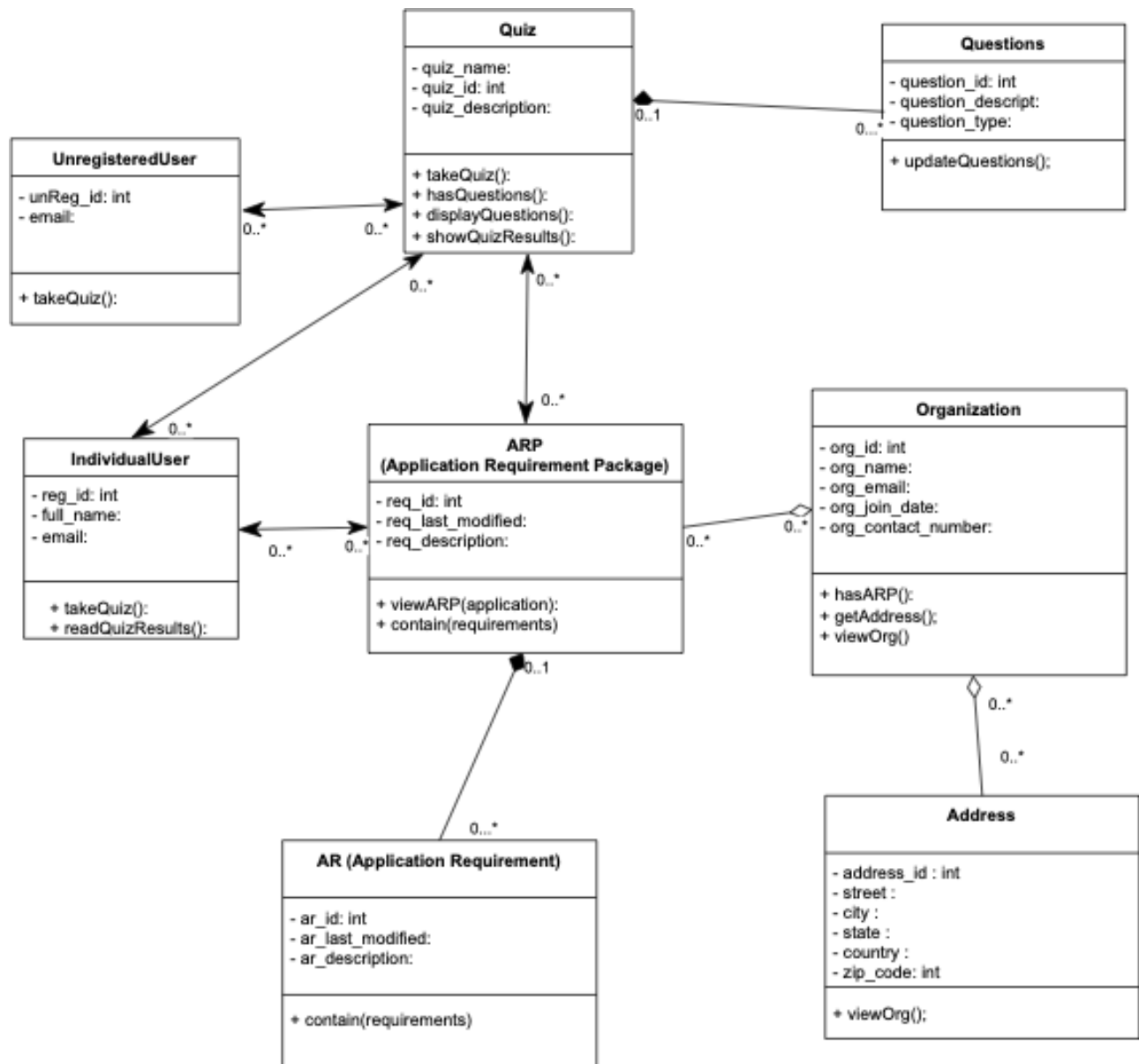
ii) Search by a related entity's attribute - A nested 'SELECT' query that obtains all matching entities that contain specific attributes generated from the results of another Search by attribute of another related entity.

**Quiz Iteration (General):** For all quizzes in our system, we shall iterate through the quiz's list of questions. The question type of each question will determine the kind of search algorithm that is to be conducted for the possible answers to the next question, as well the

information to be recorded from the search. The search algorithm for the final question, however, will always look for a set of Application Requirement Packages for an Organization.

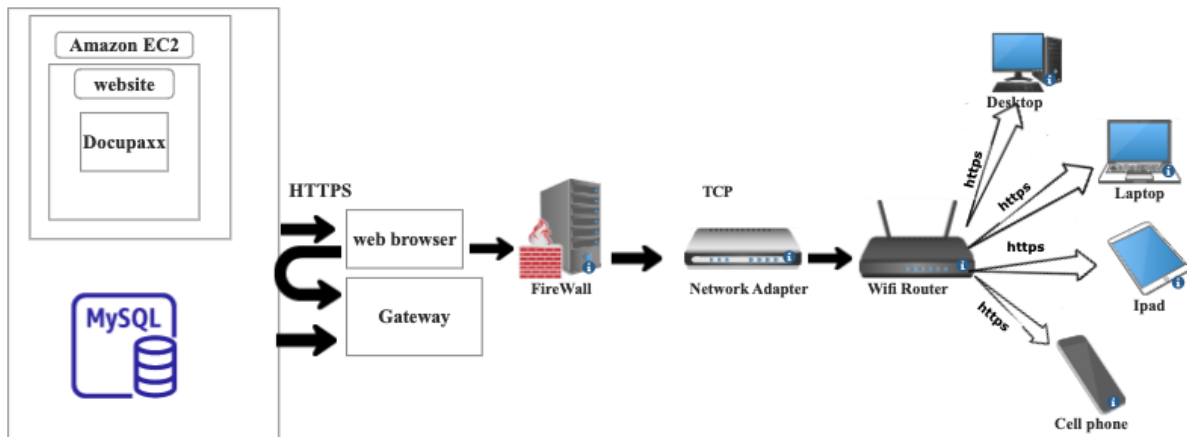
**Getting Started Quiz :** The Getting Started quiz begins with a question that asks the user which country their intended organization is located in. This will use the *Search by a related entity's attribute* to obtain the list of countries of all organizations that are partnered with Docupaxx. Once the user selects their country, it will trigger another *Search by attribute* to list all of the cities in the selected country -- which will be used for the second question. Once the user selects a city, it will trigger a *Search by a related entity's attribute* that will list all organizations that are located in the selected city. Once an organization has been selected, it will trigger a *Search by a related entity's attribute* to list all of the Application Requirement Packages that the selected organization offers.

## 6. High Level UML Diagrams

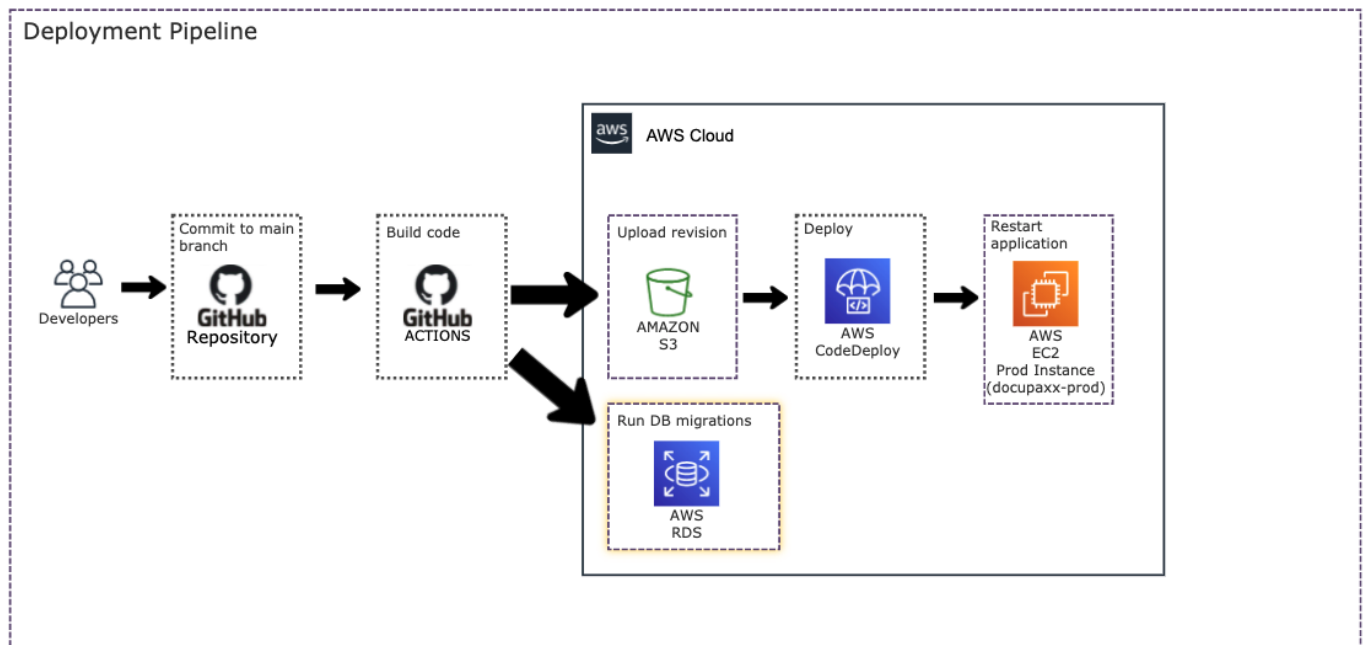


## 7. High Level Application Network and Deployment Diagrams

### Network Diagram:



### Deployment Diagram:



#### 8. Identify actual key risks for your project at this time

**Skills Risks:** Some of us in the team are unfamiliar with the language we are going to code our project since everyone has learned different coding languages. Even though we might not know a particular skill we have been helping each other by providing different resources in which we can learn the language. There is also going to be a meeting where one member of our team who has experience with React and JavaScript will show us the foundation and we will continue to build our knowledge.

**Schedule Risks:** Since we are taking upper division classes, our schedules are busy and it can be difficult to meet through a video conference every time. To fix this we are messaging each other through discord and writing comments on the google doc to resolve any issue we encountered or to provide our thoughts. We are also using Trello, an app in which we could write the tasks we are doing to make sure we are making progress. Once we get our task done we mark it with a check mark so the team knows what has been completed and what else still needs to be worked on.

**Technical Risks:** Due to the pandemic, our team communication may be hampered by remote communication because we are online. Since we are not in close proximity, it will be difficult to help each other debug problems, as we can only see a limited display of another person's system. To account for this, we will utilize Zoom's screen sharing feature to help look through each other's systems. During a live meeting, we shall use screen sharing to take a look into an individual's programming problems, and if the issue is too big, a special private meeting will be taken with the affected individual to formulate ways of fixing the problem.

**Teamwork Risks:** Our teamwork is generally solid, as the team works well together.

However, potential risks include the possibility of excessively slacking from their work, too

much of one individual's perspective on work, lack of trust between members, general rudeness, and unilateral decisions by an individual. If an individual significantly demonstrates one or more of these problems, either the Team Lead or a group of members will talk with that individual, and both parties share their concerns. In that talk, we will try to work out a solution, so that the team member does not hamper the group's team work.

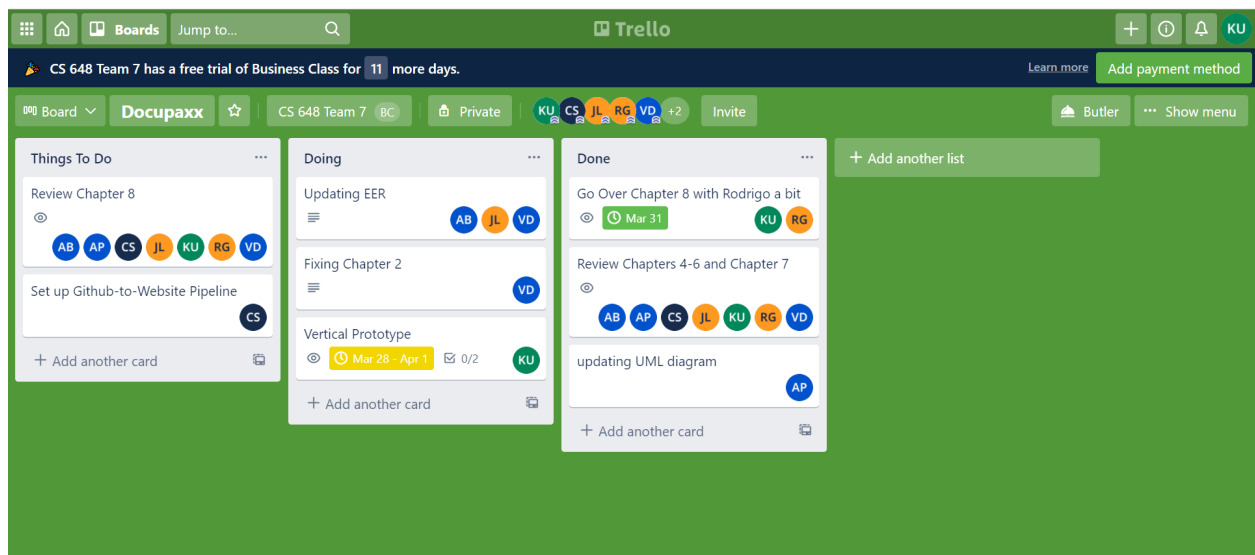
**Legal/Content Risks:** This project requires the Organizations acceptance which could potentially cause a problem if they don't comply because they are the ones that provide the feedback to the user and potential acceptance of application. As we collect documents and send them to organizations it can be a security risk as it contains the users' information which the users might not want to share. To commend this issue we will make sure that we make a statement where the user accepts that their documents will be uploaded to our database. In addition, another security risk is that we have to ensure users' information are not leaked and shared for privacy reasons. Other than getting permission from the Organization for submission function, we also think of using antivirus software to protect our data and client's data. Furthermore, our frequency of backups to external storage and cloud storage will be done weekly to improve our data security. Every password created on the website will need to follow the strong password guideline.



## 9. Project management

For this project, our team has mostly managed our tasks through coordination via Google Docs and Discord. Through Google Docs, we have written a schedule and To Do List for our Milestone 2 tasks. Further coordination of our project tasks, in order to complete internal checkpoints, was done by messaging through Discord of the required tasks.

For this milestone, we have started using Trello to augment our Task Management, and we will use it for future tasks. With Trello we will easily be able to see what subtasks are being done by which members and the due dates of each of the subtasks. From here, members can also check if a specific subtask is completed by a group, which can help in coordinating tasks afterward, and the tasks will be assorted in a simple at-a-glance perspective. Trello will help us manage tasks and check the overall progress of the project.



#### 10. Detailed list of contributions

Member	Role	Contributions
Kyle	Team Lead Github Master	<p><u>Documentation:</u>  Main Data Items and Entities (Worked as Team)  Functional Requirements (Worked as Team)  UI Mockups and Storyboard (Drew and Refined Mockups)  Database Architecture (Review and Proposed Suggestion)  High Level APIs and Algorithms (Review and Minor Assistance)  UML Diagrams (Review only)  Network and Deployment Diagrams (Review only)  Key Risks (Review and Minor Assistance)  Project Management (Primary Contributor)</p> <p><u>Vertical Prototype:</u>  Code Review</p>
Can	Front-End Lead	<p><u>Documentation:</u>  Main Data Items and Entities (Worked as Team)  Functional Requirements (Worked as Team)  UI Mockups and Storyboard (Drew Mockups)  Database Architecture (Review Only)  High Level APIs and Algorithms (Review Only)  UML Diagrams (Review Only)  Network and Deployment Diagrams (Significant Assistance)  Key Risks (Review Only)  Project Management (Review Only)</p> <p><u>Vertical Prototype:</u>    Implemented Prototype UI  Implemented Skeleton for Query Inserts and Deletes  Implemented CI/CD Pipeline</p>

Amron	Back-End Lead	<u>Documentation:</u> Main Data Items and Entities (Worked as Team) Functional Requirements (Worked as Team) UI Mockups and Storyboard (Review Only) Database Architecture (Co-Primary Contributor) High Level APIs and Algorithms (Co-Primary Contributor) UML Diagrams (Co-Primary Contributor) Network and Deployment Diagrams (Review Only) Key Risks (Review Only) Project Management (Review Only)  <u>Vertical Prototype:</u> Completed Database Query Implementation Code Documentation Performed Code Demo
Vi		<u>Documentation:</u> Main Data Items and Entities (Worked as Team) Functional Requirements (Worked as Team) UI Mockups and Storyboard (Contributed to Home Page Template) Database Architecture (Co-Primary Contributor) High Level APIs and Algorithms (Review Only) UML Diagrams (Co-Primary Contributor) Network and Deployment Diagrams (Review Only) Key Risks (Appended Legal Risks) Project Management (Review Only)
Anna		<u>Documentation:</u> Main Data Items and Entities (Worked as Team) Functional Requirements (Worked as Team) UI Mockups and Storyboard (Drew Mockups) Database Architecture (Review Only) High Level APIs and Algorithms (Review Only) UML Diagrams (Co-Primary Contributor) Network and Deployment Diagrams (Review Only) Key Risk (Appended Legal Risks) Project Management (Review Only)

Rodrigo		<u>Documentation:</u> Main Data Items and Entities (Worked as Team) Functional Requirements (Worked as Team) UI Mockups and Storyboard (Review Only) Database Architecture (Review Only) High Level APIs and Algorithms (Co-Primary Contributor) UML Diagrams (Review Only) Network and Deployment Diagrams (Co-Primary Contributor) Key Risks (Co-Primary Contributor) Project Management (Review Only)
Janson		<u>Documentation:</u> Main Data Items and Entities (Worked as Team) Functional Requirements (Worked as Team) UI Mockups and Storyboard (Review Only) Database Architecture (Co-Primary Contributor) High Level APIs and Algorithms (Review Only) UML Diagrams (Co-Primary Contributor) Network and Deployment Diagrams (Review Only) Key Risks (Review Only) Project Management (Review Only)