

SW Engineering CSC648/848 Spring 2021

Docupaxx

Team 7

Milestone 1

3/11/21

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I . Executive Summary

Saving documents has always been a hassle for people, as they have to search through all of their files, physically and digitally, to see where they are stored. Being able to organize records is certainly a life skill, but it is an impediment that can be helped by modern technology. People can get tired and frustrated as it wastes their time in their search and they may not always be successful. And with someone from another country, the overall burden would be even harder for that individual. This level of difficulty may be strong enough to deter people from a particular organization entirely. The main purpose of Docupaxx is that we sell our services to partnering organizations, and they use our product. As Docupaxx's revenue model, we have decided that individual members pay a one-time fee when registering and pay for each package they send. However, if any organization wants to use our product, they will be charged a monthly fee. With our accrued revenue, Docupaxx plans to reinvest its profits into enhancing its services by improving security, having a more robust user experience, as well as boosting outreach through more expansive marketing campaigns. The organizations' motivations for using our product is because with our convenience, they can generate more revenue by onboarding more potential customers. To fulfill their needs, as well as provide an opportunity for an organization to increase its revenue, we decided to create Docupaxx, a user friendly app that allows easy organization for documents.

Compatible on a computer, phone and tablet with internet access, Docupaxx provides users the ability to store hundreds of pages of documents that will be conveniently organized. Users will be able to find the required information from organizations they are applying to right at a glance. Our website also allows people to send documents directly to registered organizations and prepare their uploaded documents for personal use.

The fact that the user does not have to leave our website in order to find multiple organizations' application requirements and the application submission being a quick and convenient feature for the user is what the other competitors do not have. In addition, Docupaxx presents required documents in a seamless, To Do List type of manner. With the efficiency of file sharing, the users can bypass individual organizations' contact information by the simple process of sending files directly to the organization's Docupaxx account. Furthermore, Docupaxx does a good job of assembling documents to reduce user frustration and disorganization.

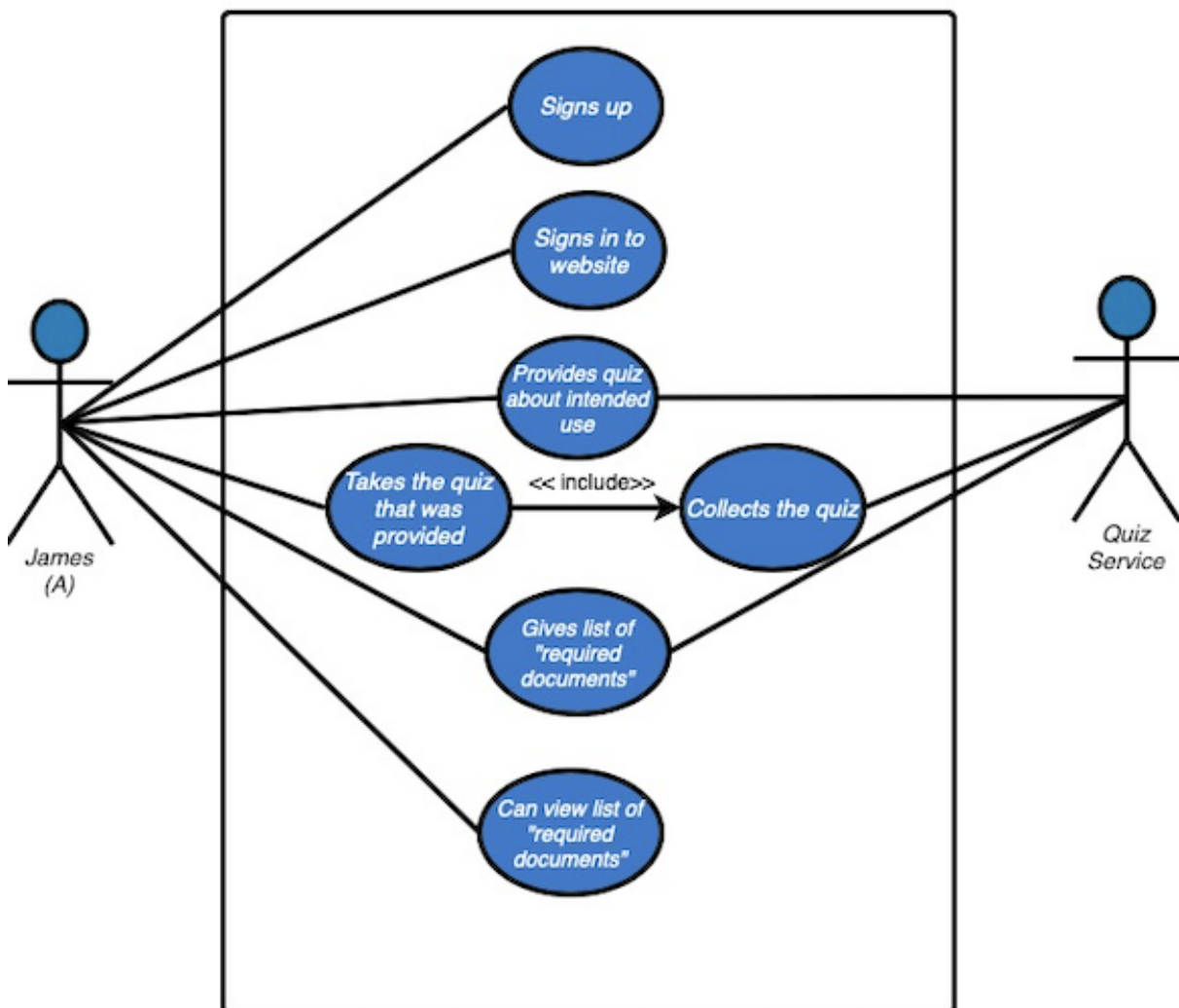
II . Main Use Cases

i).

Title	Take Quiz to Identify Application Requirements
Actors	<p>James</p> <ul style="list-style-type: none">• Senior in High School• He will be a College Freshman next year• Has basic WWW skills• He is well-prepared; determined.• James as innovated person
Goals & Scenario	<ul style="list-style-type: none">• James wants to know required documents for his college application• Wants to make sure he is prepared for applying.• Chooses the best university that fits him
Description	<p>James is a smart and hardworking student. He studies day and night to be successful in his classes. James feels excited to apply to a variety of universities for next year. He wants to know what documents will be required in the application so that he can prepare himself early for the application process. James is trying to find the necessary documents for the application by going to the university websites. But with so many universities to apply, this process is getting longer and boring. While browsing the SF State University website, he sees them using Docupaxx. After James signed up for Docupaxx, Docupaxx asked him questions regarding his intended use. James provided the necessary answers for the application to SF State University. Based on the answer to these questions, Docupaxx presented James a list of documents required to apply to SF State University. He then repeats the quiz a few more times to see what documents are required to apply to other universities.</p>

	Thanks to this process, James does not get lost on websites and uses his time better.
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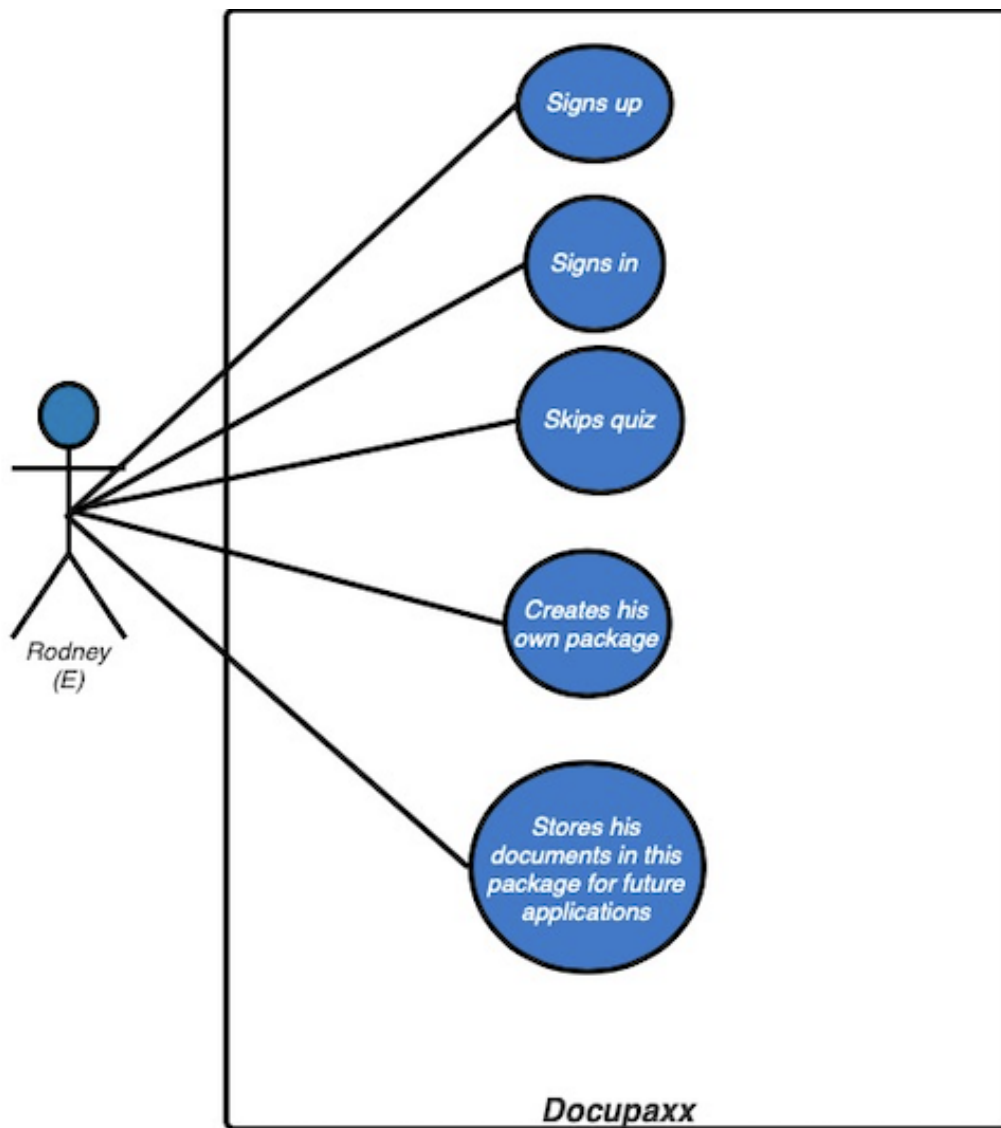
Take Quiz to Identify Application Requirements



ii).

Title	Storage of Documents
Actors	<p>Rodney</p> <ul style="list-style-type: none">• Businessman• Very busy• Needs to update/renew car registration• Likes efficiency• Tends to have trouble finding specific documents due to having many from work
Goals & Scenario	<ul style="list-style-type: none">• He has no time to go to the DMV to update/renew car registration and wants to know an easy and quick way to complete it without digging through his hard drive each time.• Wants to find a place to store important documents that can be used for multiple applications• Looking for a website with a very simple interface that organizes documents
Description	<p>Rodney has been working hard as he takes twelve hour shifts helping people in his firm and doesn't have time to go to the dmv to change his car registration. However, Rodney realizes that everytime he needs to renew or update any of his official documents, he will need to dig through his hard drive which already stores a massive amount of different files from work. He then encounters a Docupaxx ad which highlights the simplicity of its UI and effective storage features. Seeing the ad boasting of its strengths, he goes to the website and stores his documents with Docupaxx. After he uploads his required documents to the DMV's Docupaxx team, his documents will be stored with Docupaxx for use in future applications.</p>

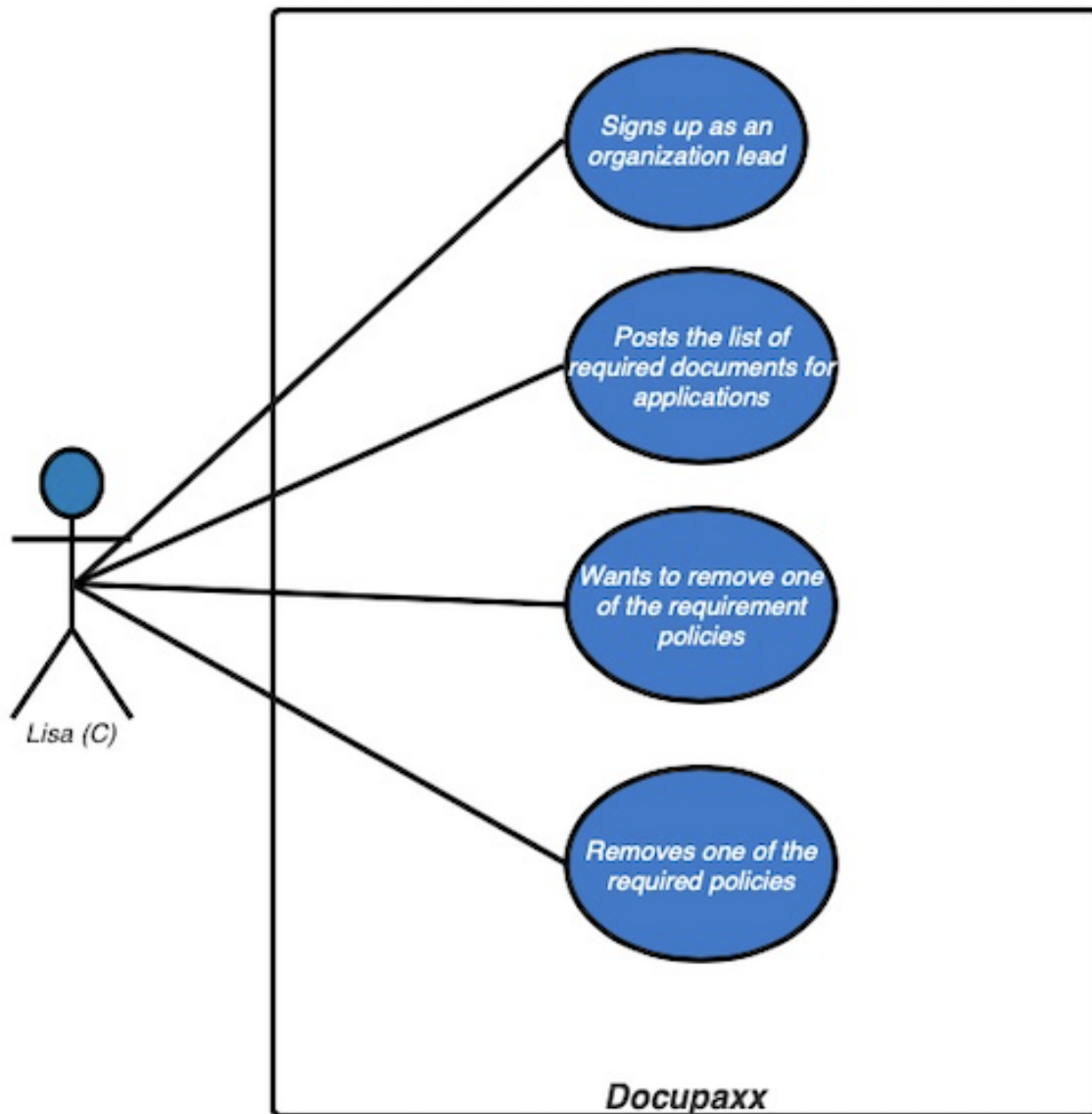
Storage of Documents



iii).

Title	Setting and Modifying Application Requirements
Actors	<p>Lisa</p> <ul style="list-style-type: none">● SFSU administration officer● works hard at her job● is nice, understanding; a good leader● enjoys working with efficient applications● Representative of SFSU
Goals & scenario	<ul style="list-style-type: none">● Lisa wants to recruit many people so she can get a raise.● She would use any type of service that's quick and easy for her to be able to recruit many people.● She is appointed by SFSU to be an Organizational Lead on Docupaxx.● She needs to create a list of enrollment requirements for potential students.● She makes a list of requirements and posts them on Docupaxx, and makes modifications as needed.
Description	<p>SF State University (SFSU) would like to have more revenue by enrolling more students. After discovering Docupaxx as a means of onboarding applicants, SF State joins Docupaxx and appoints Lisa to be an Organizational lead to manage the SF State team on Docupaxx. As the Organizational lead, she would be in charge of creating and maintaining a list of required documents for several types of applications. She created a list of required documents for the Fall 2020 semester. After one semester, SFSU's requirement policies changed and Lisa went back to the website and modified the required documents list for the Spring 2021 semester.</p>

Setting and Modifying Application Requirements

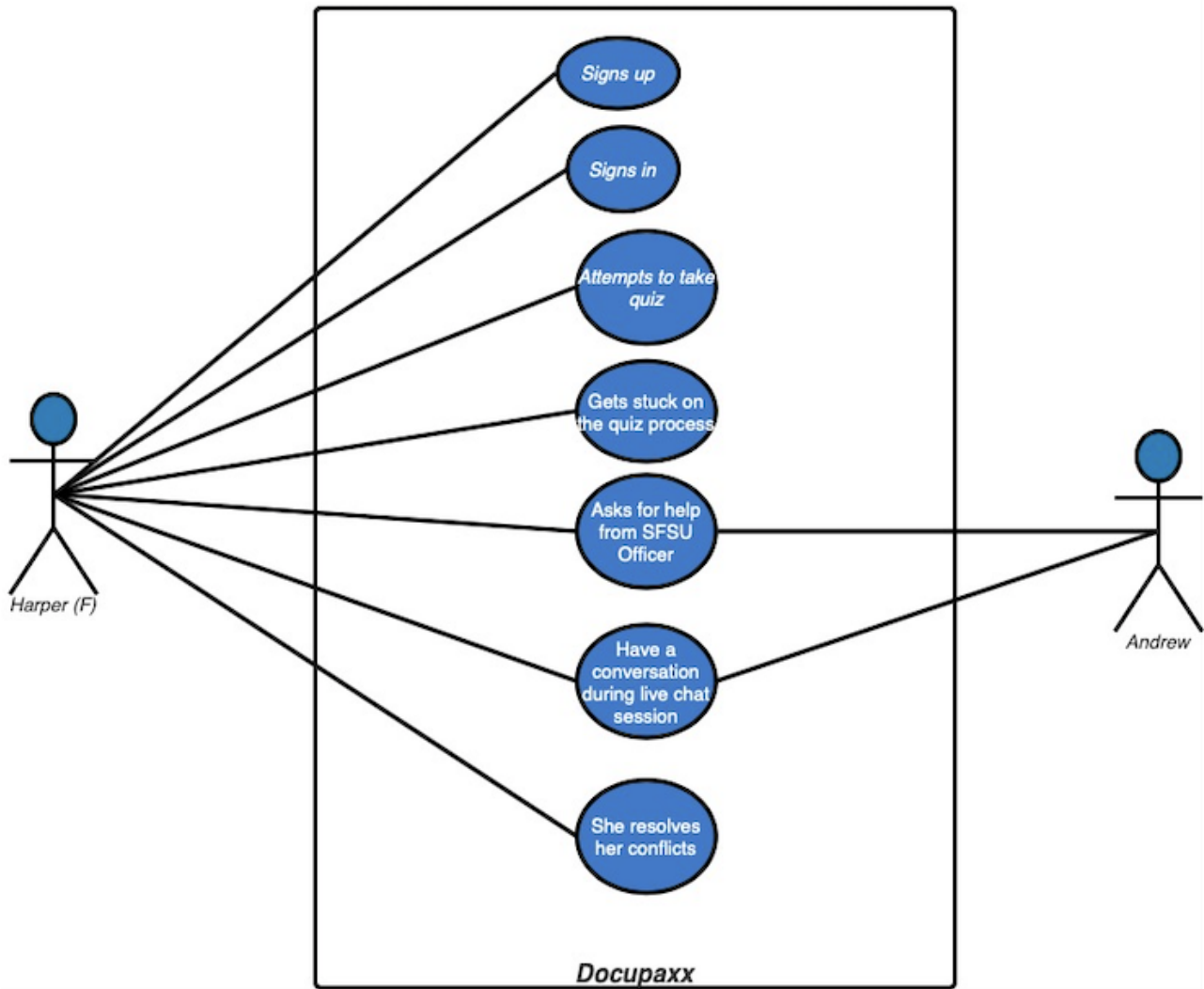


iv).

Title	Messaging / Chat
Actors	<p>Harper</p> <ul style="list-style-type: none">• 22 years old• She is an SFSU Applicant• She is a very sociable person• Is not afraid to ask for help <p>Jazmine</p> <ul style="list-style-type: none">• Harper's friend, helping Harper.• Knowledgeable with www• Helpful• User of Docupaxx <p>Andrew</p> <ul style="list-style-type: none">• SFSU Administration officer
Goals & Scenario	<p>Harper</p> <ul style="list-style-type: none">• Wants the convenience of being able to chat with someone in the company• When onboarding Docupaxx, she needs clarification, so she asks for help.
Description	<p>Harper is 22 years old, and is planning to fill out required documents in order to be admitted to San Francisco State University. She talked with Jazmine and was referred to Docupaxx as it previously helped her with various issues she was having when applying. Jazmine mentioned that it was simple to navigate and was able to chat with the admissions office. Once Harper was home she opened up her computer and navigated over to Docupaxx and was greeted by a questionnaire to get started. She began to fill in the documents, but became stuck for a while before she asked for help through real-time support, a feature Docupaxx offers for its users. Harper then sent a message and got a</p>

	response from Andrew, an SF State Administration officer, within a few minutes. As a result, they had a conversation, and Harper got the feedback and was able to successfully complete the documents.
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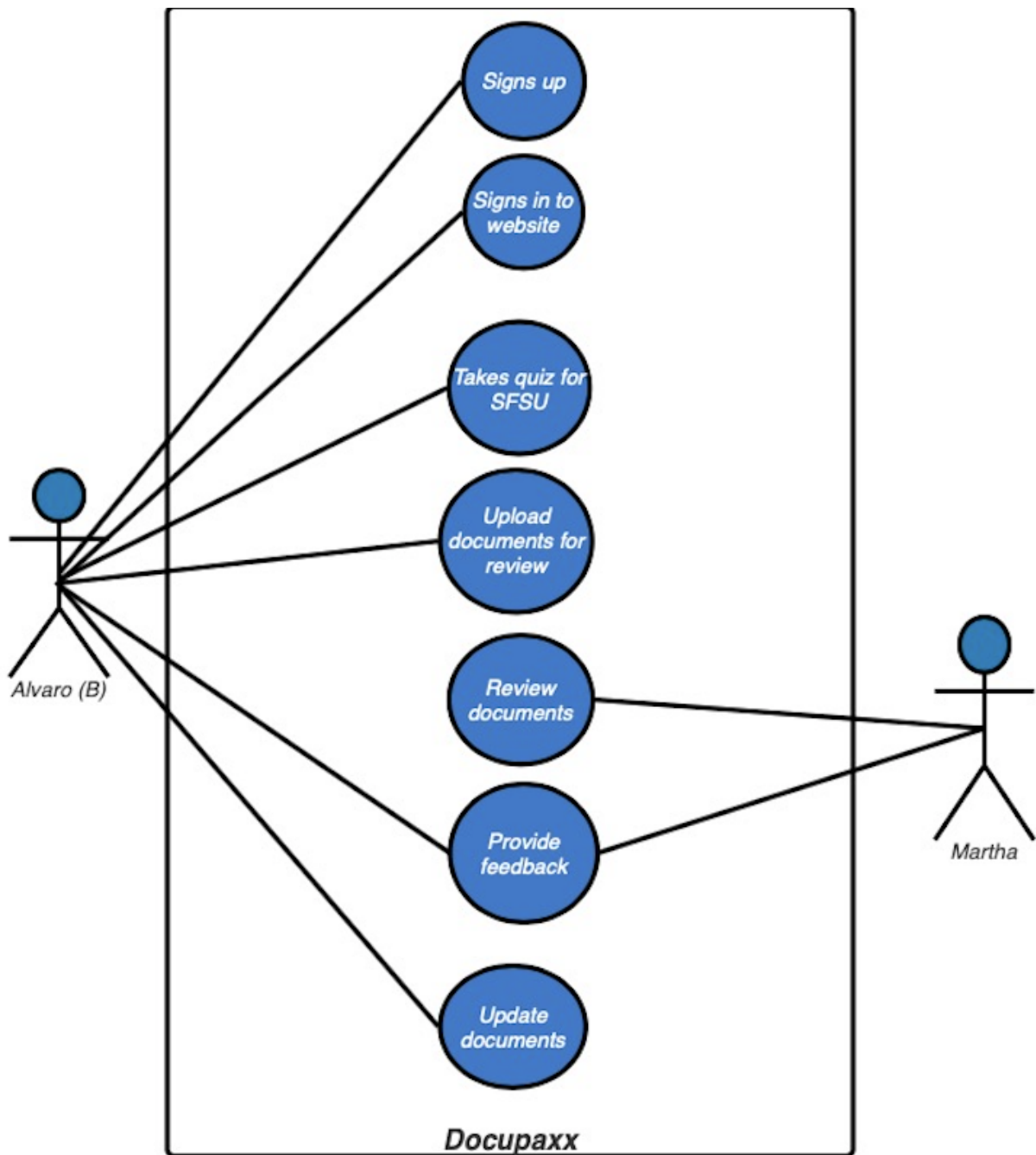
Messaging / Chat



v).

Title	Receive Feedback for Uploaded Documents
Actors	Alvaro <ul style="list-style-type: none">• Incoming transfer student Martha <ul style="list-style-type: none">• SF State Admissions officer• Organizational member at Docupaxx
Goals & Scenario	<ul style="list-style-type: none">• Applicants can send their documents early for a review• Organizations help ensure their applicants meet the requirements by providing feedbacks
Description	<p>SF State University, a Docupaxx partner, wants to ensure a smooth and successful onboarding process for their prospective students.</p> <p>Alvaro, excited to be transferring to SF State University in the coming semester, was quick to gather the required documents for his transfer application and sent them over to the SF State Docupaxx team a few weeks before the deadline. Martha, an Admissions Officer, reviewed his application and noticed that there was something missing -- a core GE course, and left a comment stating that. After being notified of this feedback, Alvaro realized that he sent an older version of his transcript, and was able to upload the latest version which shows that he's currently taking that class, adhering to the requirements of his transfer application.</p>

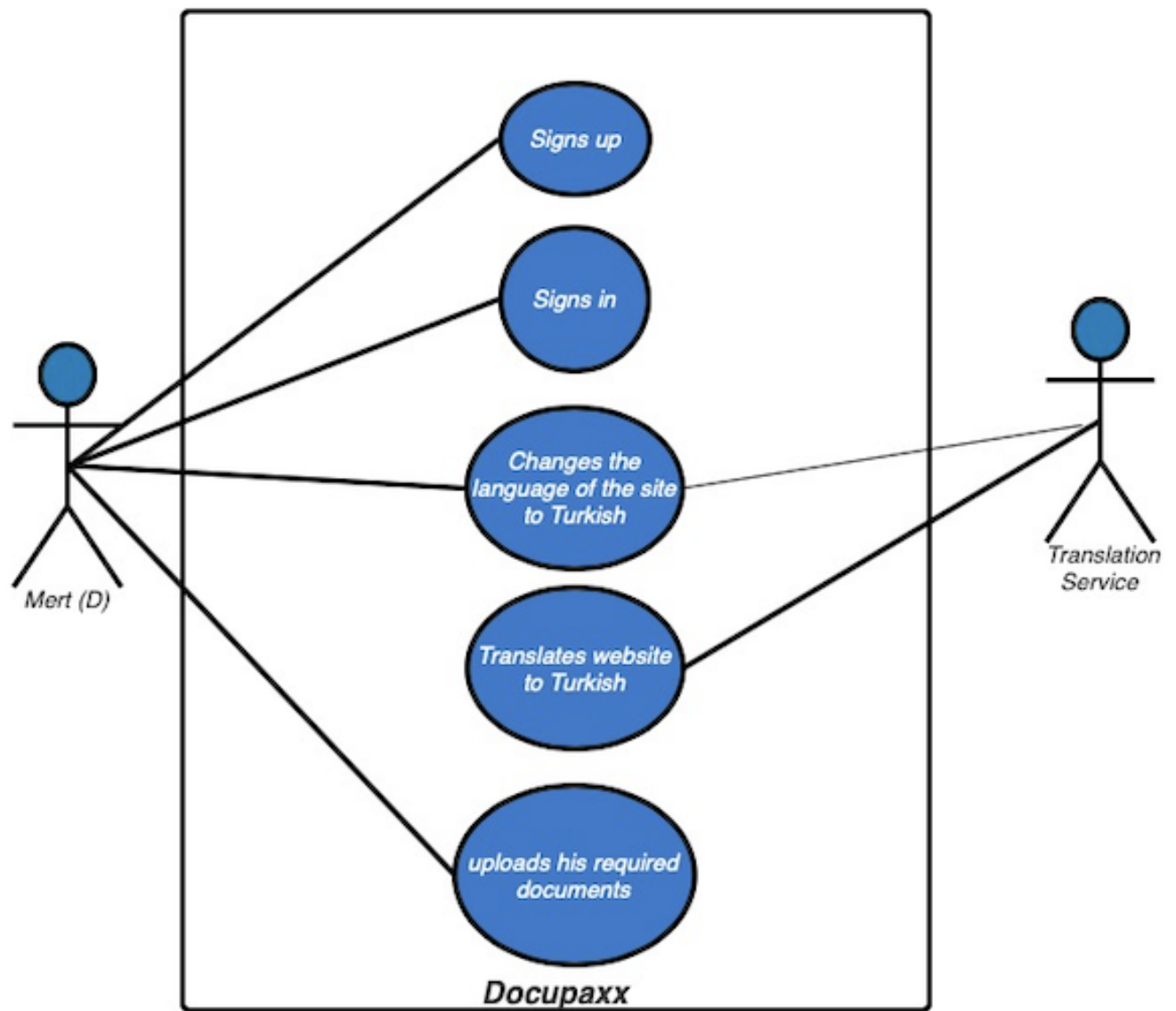
Receive Feedback for Uploaded Documents



vi).

Title	Translation
Actors	<p>Mert</p> <ul style="list-style-type: none">• Non English speaker• He is ambitious and hardworking• He is smart about business
Goals & scenario	<ul style="list-style-type: none">• Mert wants to work in tech industry in Silicon Valley, which is his motivation for moving to SF• Translated documents needed for a DMV driver license.• He hopes to find out what kind of documents are needed from DMV only a couple clicks away by Docupaxx• Mert finds out that Docupaxx does an amazing job of organizing required documents for any application and having them translated for non-English speakers• After some quick actions, Mert has gotten ready to take his documents to the local DMV.
Description	<p>Mert recently moved to San Francisco hoping to pursue a career as a Software Developer in Silicon Valley and wanted to apply for a driver's license at the DMV, but he wasn't able to navigate their website as he doesn't know English very well. As he was browsing Facebook, he saw a Docupaxx ad mentioning that it supports multiple languages, including his native language of Turkish. After signing up, he was able to use Docupaxx services in Turkish and quickly understand what he needed for his DMV application after a few clicks.</p>

Translation



III. List of Main Data Items and Entities

i. User - the main user entity of the database that stores every information about each user with their role of the application

ii. Individual User - A registered user who can upload documents to store in the database.

iii. Organization - Group that posts the requirements for applications and receives packages from applicants.

- Consists of Organization Lead & Organization Members
- Will belong to one of the categories: School, Bank, Government, Insurance

iv. Organization Lead - Representative in charge of the organization.

- Can change package requirements needed to submit an application.
- Can do everything Organization Members can do.

v. Organization Members - Views applications sent to said organization.

vi. Admin - Has full access and modification powers in the database.

vii. Package - Collection of documents.

- Used by registered users to apply to organizations
- Users can have personal packages
- Predefined Package: Packages prepared by the organization lead

viii. Application Requirement Package (ARP) - The list of documents needed in a package.

ix. Application Requirement (AR) - The document requirement when submitting a package

x. Document - Confidential information file submitted by a registered user.

xi. Quiz - A provided quiz from Docupaxx that users can take to determine their application requirement package.

xii. Question - A question the user answers during the quiz.

xiii. Sent Package - Package that is sent from users to organizations.

xiv. Sent Document - A document inside a sent package.

IV. Initial List of Functional Requirements

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 translate the website.
5. Unregistered users shall be able to see Application Package Requirements.
6. Unregistered users shall be able to navigate to an Organization's page.
7. Unregistered users shall be able to navigate between supportive pages.

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 translate the website.
11. Individual users shall be able to reset passwords.
12. Individual users shall be able to create a new Package.
13. Individual users shall be able to see their own Packages.
14. Individual users shall be able to remove their own Packages.
15. Individual users shall be able to give a name to a Package.
16. Individual users shall be able to select predefined Packages.
17. Individual users shall be able to attach a Document to Packages.
18. Individual users shall be able to remove Documents from Packages.
19. Individual users shall be able to rename Packages.
20. Individual users shall be able to download any Package to the device.

21. Individual users shall be able to rename Documents.
22. Individual users shall be able to add a reminder to a Package.
23. Individual users shall be able to mark a required Document as ready.
24. Individual users shall be able to mark a Package as their favorite Package.
25. Individual users shall be able to see the preview of a Document.
26. Individual users shall be able to see when a Package is created.
27. Individual users shall be able to search between Packages by title.
28. Individual users shall be able to search between Documents.
29. Individual users shall be able to comment on their own Documents.
30. Individual users shall be able to sort Packages by filters.
31. Individual users shall be able to navigate to an Organization's page.
32. Individual users shall be able to send a Package to an Organization.
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 edit their email address.
35. Individual users shall be able to send messages to the Organization Members.
36. Individual users shall be able to translate names of Documents.
37. Individual users shall be able to view Packages sent to an Organization.
38. Individual users shall be able to take a quiz.
39. Individual users shall be able to skip quiz.
40. Individual users shall be able to view a list of organizations.
41. Individual users shall be able to navigate between supportive pages.

iii . Organization

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

iv . Organization Lead

- 48. An Organization Lead shall be able to sign into the website.
- 49. An Organization Lead shall be able to log out from the website.
- 50. An Organization Lead shall be able to translate the website.
- 51. An Organization Lead shall be able to reset passwords.
- 52. An Organization Lead shall manage only one Organization.
- 53. An Organization Lead shall be able to invite Organization Members to the organization.
- 54. An Organization Lead shall be able to create Application Package requirements.
- 55. An Organization Lead shall be able to modify Application Package requirements.
- 56. An Organization Lead shall be able to delete Application Package requirements.
- 57. An Organization Lead shall be able to view submitted Packages.
- 58. An Organization Lead shall be able to preview Documents inside of a submitted Package.
- 59. An Organization Lead shall be able to download submitted Packages.
- 60. An Organization Lead shall be able to sort submitted Packages.
- 61. An Organization Lead shall be able to search for Package by Applicant name.
- 62. An Organization Lead shall be able to comment on submitted Packages.

63. An Organization Lead shall be able to send a message to an Individual user.

64. An Organization Lead shall be able to navigate to an Organization's page.

65. An Organization Lead shall be able to navigate between supportive pages.

v . Organization Member

66. Organization members shall be able to sign into the website.

67. Organization members shall be able to log out from the website.

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

69. Organization members shall be able to reset passwords.

70. Organization members shall be able to view submitted Packages.

71. Organization members shall be able to preview documents in Packages.

72. Organization members shall be able to search for Packages by Applicant name.

73. Organization members shall be able to comment on submitted Documents.

74. Organization members shall be able to comment on submitted Packages.

75. Organization members shall be able to sort submitted Packages.

76. Organization members shall be able to download submitted Packages.

77. Organization members shall be able to see a notification if there is a new comment on a submitted Package.

78. Organization members shall be able to navigate to an Organization's page.

79. Organization members shall be able to navigate between supportive pages.

80. Organization members shall be able to send a message to an Individual User.

vi . Admin

81. An Admin shall be able to sign into the website.

82. An Admin shall be able to log out of the website.

83. An Admin shall be able to translate the website.
84. An Admin shall be able to add an Organization to the website.
85. An Admin shall be able to remove an Organization from the system.
86. An Admin shall be able to assign an Organization Lead to an Organization.
87. An Admin shall be able to remove an Organization Lead from an Organization.
88. An Admin shall be able to assign an Organization Member to an Organization.
89. An Admin shall be able to remove an Organization Member from an Organization.
90. An Admin shall be able to create a new Package.
91. An Admin shall be able to see their own Packages.
92. An Admin shall be able to remove their own Packages.
93. An Admin shall be able to give a name to a Package.
94. An Admin shall be able to select predefined Packages.
95. An Admin shall be able to attach a Document to Packages.
96. An Admin shall be able to remove Documents from Packages.
97. An Admin shall be able to rename Packages.
98. An Admin users shall be able to download any Package to the device.
99. An Admin shall be able to rename Documents.
100. An Admin shall be able to create Application Package requirements.
101. An Admin shall be able to modify Application Package requirements.
102. An Admin shall be able to delete Application Package requirements.
103. An Admin shall be able to create a Reminder.
104. An Admin shall be able to search for submitted Packages by Applicant name.
105. An Admin shall be able to sort submitted Packages.

- 106. An Admin shall be able to navigate to an Organization's page.
- 107. An Admin shall be able to navigate between supportive pages.

vii. Document

- 108. A Document shall have a title.
- 109. A Document shall be owned by an Individual User.
- 110. A Document shall have a date of upload.
- 111. A Document shall be able to have its title modified.
- 112. A Document shall be able to be previewed by an Admin.
- 113. A Document shall be able to be previewed by an Individual User.
- 114. A Document shall be able to be previewed by an Organization Lead.
- 115. A Document shall be able to be previewed by an Organizational Member.
- 116. A Document shall be able to be downloaded by an Admin.
- 117. A Document shall be able to be downloaded by an Individual User.
- 118. A Document shall be able to be downloaded by an Organization Member.
- 119. A Document shall be able to be downloaded by an Organization Lead.
- 120. A Document shall be able to be removed from the website by its owner.

viii. Package

- 121. A Package shall have a title.
- 122. A Package shall have a date of submission.
- 123. A Package shall have a date of creation.
- 124. A Package shall be able to have its title modified.
- 125. A Package shall be able to contain many Documents.
- 126. A Package shall be able to contain many Reminders.

- 127. A Package shall be able to contain zero or many Comments.
- 128. A Package shall be submitted by an Admin.
- 129. A Package shall be submitted by an Individual User.
- 130. A Package shall be able to be viewed by an Admin.
- 131. A Package shall be able to be viewed by an Individual User.
- 132. A Package shall be able to be viewed by an Organization Member upon submission.
- 133. A Package shall be able to be viewed by an Organization Leader upon submission.
- 134. A Package shall be able to be downloaded by an Admin.
- 135. A Package shall be able to be downloaded by an Individual User.
- 136. A Package shall be able to be downloaded by an Organization Member upon submission.
- 137. A Package shall be able to be downloaded by an Organization Leader upon submission.

ix. Message

- 138. A message shall be able to be sent by an Admin to an Organization Member.
- 139. A message shall be able to be sent by an Admin to an Organization Lead.
- 140. A message shall be able to be sent by an Individual User to an Organization Member.
- 141. A message shall be able to be sent by an Individual User to an Organization Lead.
- 142. A message shall be able to be sent by Organization Lead to an Individual User.
- 143. A message shall be able to be sent by Organization Members to an Individual User.

X. Application Package Requirements

- 144. An Application Package Requirement shall be able to be created by an Organization Lead.

- 145. An Application Package Requirement shall be able to be modified by an Organization Lead.
- 146. An Application Package Requirement shall be able to be created by an Admin.
- 147. An Application Package Requirement shall be able to be modified by an Admin.
- 148. An Application Package Requirement shall contain many Documents.

XI. Reminders

- 149. A Reminder shall have a title.
- 150. A Reminder shall have a due date.
- 151. A Reminder shall be created by an Individual User.
- 152. A Reminder shall be able to be linked to a Package.

V . List of Non-Functional Requirements

i . System requirements

1. Minimum specs: Windows 7 or later/ MacOS 10.1 or later, 2GB of RAM, Intel-core i3 or above/ Ryzen 3 or above
2. Recommended specs: 4GB of RAM, Intel-core i5 or above/ Ryzen 5 or above

ii . Storage

3. Document shall only be stored with signed-up account
4. Document size shall not exceed 1GB
5. Image and thumbnail uploads shall not exceed 5MB

iii . Security

6. Personal documents uploaded shall be protected from other users' access
7. Personal documents uploaded shall be protected from ransomware
8. Personal information shall comply under certain Organization's regulations
9. Personal documents shall comply under certain Organization's regulations
10. Access permissions shall only be changed by system's admin
11. Login shall require user name/email and password
12. Password needs to have at least one special character
13. Password needs to have at least one numeric character
14. Password needs to satisfy the length of 10 characters
15. Inactivity timeouts shall be activated 30 minutes after an inactivity countdown

16. Inactivity countdown shall be activated if there is no interaction after 15 minutes
17. All communications in application shall be encrypted

iv . Marketing

18. Logo of company shall be displayed in every page of the website
19. Name/Logo of the company shall be on any platform of social media

v . Content

20. Information about required documents shall be visible and accessible by user
21. Website shall have quick search bar to find organizations
22. Uploaded documents shall be able to access by user owner
23. Ability to review and change user information shall be available under user profile
24. Website shall provide company's information under FAQ
25. Website shall state refund policy on the bottom of each page
26. Website shall state privacy policy on the bottom of each page
27. Company contact information option shall be available on the bottom of each page
28. Live chat between user and customer service department shall be available in each page
29. Ability to submit a request shall be available on the bottom of each page
30. Ability to email to the company directly from the website shall be available

vi . Compatibility

31. Website shall be compatible with Google Chrome version 89.0
32. Website shall be compatible with Firefox version 86.0

33. Website shall be compatible with Safari version 14.0

34. Website shall be compatible with iOS

35. Website shall be compatible with Android

vii. Privacy

36. Personal documents shall be uploaded to the Website

37. Personal documents shall only be managed by user account (meaning nobody can access except the owner)

38. Personal documents shall be uploaded by user with signed-up account

39. Required documents from different organizations shall be check marked only when user already have that documents uploaded in their account

40. Personal documents shall be uploaded by user with stable internet connection to prevent data leak or any error

41. Data shall be deleted if documents are half uploaded

viii. Reliability

42. Required documents shall be up-to-date with each organization's information

43. Required documents shall be translated for non-English users

ix. Usability

44. Information from specific organization shall be viewed after being searched

45. Specific required documents shall be verified once user has uploaded their documents

46. User interface shall be in simple and clean design

- 47. User interface shall be straightforward under categories
- 48. User interface shall allow users for easy access to find what they want to look for
- 49. If accessed on computer, system shall require necessary hardware like mouse and keyboard
- 50. If accessed on phone, system shall require virtual keyboard
- 51. Spellings shall be precise in order to access information

x . Performance

- 52. System shall result information after search within certain speed (.1ms)
- 53. Personal data shall be accessed after user login within certain speed (.1ms)
- 54. Browser refresh times shall not take longer than 2s
- 55. System shall detect uploaded documents within a certain amount of time
- 56. Query shall take no longer than 1s

xi. Portability

- 57. Website shall be accessible on any electronic device
- 58. Website shall be accessible from a browser

xii. Capacity

- 59. Document shall be uploaded one at a time
- 60. System shall handle next document after finished storing the previous one
- 61. System may handle more than one file at a time in the future
- 62. System shall be able to handle thousands of users at a time

xiii. Maintainability

- 63. System shall apply coding standards
- 64. System shall maintain best practices
- 65. System shall follow design standards

xiv. Recoverability

- 66. Recovery process shall take no longer than 24 hours
- 67. Backup frequencies shall be executed every month

xv. Availability

- 68. Technical supports shall be available 24/7
- 69. Website maintenance message shall be stated on top of the main page 48 hours prior
- 70. Technical supports shall be available in certain amount of hours during holidays
- 71. Connection requirement shall be considered stable at 15mbps or above
- 72. Upload speed shall be considered functional at 1mbps or above

xvi. Audit

- 73. System must maintain full traceability of information from organizations
- 74. Required documents shall require audit properly
- 75. A file to upload shall always have a name
- 76. A file to upload shall take up storage space
- 77. A file to upload shall satisfy proper extension (PDF...)
- 78. Unsuccessful attempt to upload shall be recorded by audit performance

- 79. Export documents shall always be audited
- 80. Import documents shall always be audited
- 81. Privacy of user information shall always be audited

xvii. Scalability

- 82. The system shall be able to support thousands more new users in the next year
- 83. The system shall be able to expand storage 10% of storage in the next year
- 84. The system shall be able to support more than one file uploaded at a time in the next year
- 85. The system shall be able to reach out more than 10% of total current organizations every year

xviii. Coding standards

- 86. Code shall be easily understandable and readable
- 87. Code shall have a consistent format for maintenance
- 88. Code shall be neat and well-formatted
- 89. Name of functions shall perform accordingly to what they do
- 90. Variables name shall be meaningful
- 91. Variable names shall be in camel-case
- 92. Code shall have proper data encapsulation
- 93. Commenting on obvious things shall be avoided
- 94. Files and folders shall be organized properly

xix. Look and Feel

- 95. User interface shall have engaging and pleasing look
- 96. User interface shall be in consistent font, colors.
- 97. User interface shall look professional, and functional
- 98. Website's personality shall match the attitude of the company's business
- 99. Website's content shall be straightforward for user to find
- 100. Interaction between user and the website shall be smooth, no delay

xx. Deployment

- 101. Proper functioning shall be verified during development process
- 102. All related code shall be collected before deployment process with resources, libraries
- 103. Host server shall be tested and configured before use
- 104. The system shall be tested multiple times on the test server before use
- 105. Revision shall be done to check for errors and bugs.
- 106. Testing for bugs, errors shall be done on live server to ensure the best user experience

xxi. Networks

- 107. Connection shall be able to operate properly so that computers can send and receive signals
- 108. Computers on networks shall provide a service or services
- 109. Computers on networks shall be able to use the service
- 110. Network shall be fault-tolerant (refreshes if a client loses connection)
- 111. Network shall be scalable within Amazon Web Services load

- 112. Network congestions shall be reduced with efficient algorithms
- 113. Network security policies have no loopholes

xxii. Database

- 114. Database shall support MySQL 8.0.23
- 115. Database shall be backed up every 24 hour
- 116. Database shall store passwords in encrypted format
- 117. Database shall store only the paths to the files in the system
- 118. Modified data in database shall be updated within 5 seconds for access
- 119. Data consistency shall be ensured to prevent database error
- 120. Data integrity shall be maintained to be updated every transaction made on the website
- 121. Database shall have user ID according to user as primary key
- 122. Database actions shall be only accessible by admins

VI. Competitive Analysis

Feature/ Company	Our Company: Docupaxx (Planned Aspects)	Competitor 1: Google Drive	Competitor 2: Common App	Competitor 3: Dropbox	Competitor 5: Hightail	Competitor 6: Bit.AI
Strengths	Convenient and efficient interface, with real-time technical support.	Efficient user interface.	User interface functionality is efficient.	Focus revolves around user's data.	Functionality accustomed to users.	Great design, integratable.
Weaknesses	Low name-recognition.	Potential attack on vulnerable accounts.	Does not offer full support of information.	Lack of user customizable functionality.	Confusing interface to new users; sporadic social media.	Lack of functionality for unpaid users.
Pricing	Up to \$5 per month.	Up to \$10 per month.	\$50 per application.	Up to \$20 per month. Up to 3 users per account.	Up to \$36 per month.	Up to \$15 per month.
Social Media	Twitter, Blog posts, Instagram, Snapchat, Facebook	Twitter, Blog posts	Twitter, Blog posts, Instagram	Twitter, Blog posts, Instagram	Twitter, Blog posts, Instagram	Twitter, Blog posts, Instagram
Onboarding experience	Straightforward instructions with few. web pages to verify.	Straightforward registration instructions.	Straightforward sign-up, confusing navigation thereafter.	Straightforward registration, auto downloads.	Straightforward registration, few steps to verify.	Straightforward registration, but involving many steps and verification.

Feature/ Company	Our Company: Docupax x (Planned)	Competitor 1: Google Drive	Competitor 2: Common App	Competitor 3: Dropbox	Competitor 5: Hightail	Competitor 6: Bit.AI
Making Updatable To Do List of Required Documents for an Organizatio n	+	-	+	-	-	-
Organizing Documents	++	+	-	+	+	+
Derives Required Document List for an Organizatio n with Quizzes (Superior Feature)	++	-	-	-	-	-
Translation of Organized Documents	+	+	-	-	-	-
Real-Time Chat with Organizatio n Representa tive (not Technical Support)	++	-	-	-	-	-

SUMMARY:

Of all our competitors researched, their purpose only focuses on a single feature, whereas Docupaxx revolves around many features that will assist the user in saving and sending documents for applications much easier. Because of this, Docupaxx's planned advantage is to take our competitors' specific features and combine them into one workspace for the user. These features include the ability to store and organize file documents, be able to chat in real-time with the organizations, take a quiz to personalize the user's experience, as well as having the capability of creating a to-do list specifically for the user's personal purpose.

However, a unique quality that our competitors do not have is our superior Quiz feature. With Docupaxx's Quiz feature, the user answers questions based on what type of application they are trying to apply for. Based on the user's application type, the user will be presented with a list of required documents that are needed to complete the application. Once the user is presented with the list of required documents for their Organization they're trying to apply for, they are able to send in their documents to the Organization for review. With this feature, it is quick and simple for the user, since the user does not have to do further research on what other documents are required to complete their application.

To market Docupaxx to organizations, we will propose our product through demos either virtually or in-person. Once an organization partners with Docupaxx and gives Docupaxx permission on file sharing, the user will be able to send their required documents to the organization. If an organization is already using services from other competitors, we will market and emphasize how Docupaxx reduces the inconvenience of file reviewing, especially for incomplete and incorrect applications compared to our other competitors. Not only that, if an organization is trying to create more revenue, by partnering with Docupaxx, users will be

exposed to the organizations, which will induce recognition of organizations, potentially increasing applicants. To ensure an organization's security, Docupaxx will disallow any public connections to our Database server. Only Docupaxx Admins, having secure and encrypted access, would be able to directly reach an Organization's files. To further increase our security, Docupaxx uses Cloud Security from AWS to promote liability and security measures within the website. We will also increase security by implementing a registration fee for users, deterring malicious behavior by making it more difficult to occur.

Through Docupaxx's Chat feature, the user can communicate with the organization directly in real-time when in need of clarification regarding the application process. If there is not anybody available to chat with, users can send their documents for review with Docupaxx's Feedback feature, which allows the organization to give punctual feedback about the documents sent. With the feedback feature, the user populates a package with the corresponding documents. They can then send that package to an Organization, who will have access to download and to view those documents inside the package. The Organization will then send the package back to the user after reviewing and attaching feedback. This way, it is convenient for both the user and the organization as it helps speed up the application process by allowing the organization to give punctual feedback, which prevents the distress of users submitting an incomplete application. As for our other features, Docupaxx's To-Do List will enable users to follow step-by-step instructions to ensure users are not having missing documents when completing their application. This To-Do list feature will be based on requirements already created by the organizations, but users are able to create To-Do lists for their own personal use. And with Google's easy-to-use Translation API, Docupaxx will be able to provide these services to users from all over the world!

VII. High-level System Architecture and Technologies

Server Host: AWS 1vCPU 1GB RAM

Operating System: Ubuntu 20.04

Database: MySQL 8.0.23

Web Server: NGINX 1.18.0

Server-Side Language: JavaScript

Additional Technologies:

Web Framework: React 17.0.1

JS Framework: Node 10.19.0

IDE: VSCode, Webstorm

MySQL Workbench: Workbench 8.0.21 - 8.0.23

VIII. Team Contributions

Kyle:

- Facilitated Team Meetings for Executive Summary
- Facilitated Team Meetings for Use Cases
- Facilitated Team Meetings for M1 Review
- Helped and Contributed to Competitive Analysis
- Reviewed and gave feedback for Chapters 1-6
- Prompted all team members for feedback on all chapters
- Primary Contributor to Team Contributions and Checklist
- Appointed Github Master and M1 Editor
- Collected Information About M1V2 Specifications with Questions
- Tasked Members to Work on M1V1 Feedback for Chapters 3,4, and 5
- Facilitated Team Meetings to Review M1V1 Feedback Edits

Can:

- Co-Primary Contributor to Functional Requirements
- Contributor to Executive Summary
- Contributor to Use Cases (Primary Contributor to Case #1 with Live Feedback)
- Co-Constructed Use Case Diagrams with Feedback
- Edited Use Cases with Feedback
- Applied Feedback to Functional Requirements
- Did Workshop on editing Chapter 3, 4, 5 with feedback
- Reviewed and gave feedback to all chapters
- Applied M1V1 Feedback Edits for Chapter 3 and 4
- Did Brainstorming Workshop for Chapter 6 M1V1 Feedback Edits with Feedback
- Reviewed M1V1 Feedback Edits
- Updated Stack with AWS RDS

Amron:

- Co-Primary Contributor to Functional Requirements
- Contributor to Executive Summary
- Contributor to Use Cases (Primary Contributor to Case #2 with Live Feedback)
- Co-Constructed Use Case Diagrams with Feedback
- Edited Use Cases with Feedback
- Did Workshop on editing Chapter 3, 4, 5 with feedback
- Reviewed and gave feedback to all chapters
- Gave Ideas to Writing Workshop for Chapter 6 with Feedback
- Did Brainstorming Workshop for Chapter 6 M1V1 Feedback Edits with Feedback

- Reviewed M1V1 Feedback Edits

Vi:

- Primary Contributor to Non-Functional Requirements
- Contributor to Executive Summary
- Contributor to Use Cases (Primary Contributor to Case #4 with Live Feedback)
- Co-Constructed Use Case Diagrams with Feedback
- Edited Use Cases with Feedback
- Reviewed and gave feedback to all chapters
- Applied M1V1 Feedback Edits to Chapter 5
- Reviewed M1V1 Feedback Edits

Anna:

- Primary Contributor to Competitive Analysis
- Contributor to Executive Summary
- Contributor to Use Cases (Primary Contributor to Case #3 with Live Feedback)
- Reviewed and gave feedback to all chapters
- Did Brainstorming Workshop for Chapter 6 M1V1 Feedback Edits with Feedback
- Helped Formulate New Set of M1V1 Feedback Questions to Professor with Lead
- Facilitated Writing Workshop for Chapter 6 M1V1 Feedback Edits with Feedback
- Reviewed M1V1 Feedback Edits
- Edited Competitive Analysis for M1V2 Edits

Rodrigo:

- Primary Contributor to M1 Document Maintenance (M1 Editor)
- Contributor to Executive Summary
- Contributor to Use Cases (Primary Contributor to Case #6 with Live Feedback)
- Reviewed and gave feedback to all chapters
- Did Writing Workshop for Chapter 6 M1V1 Feedback Edits with Feedback
- Reviewed M1V1 Feedback Edits

Janson:

- Primary Contributor to Data Items and Entities
- Contributor to Executive Summary
- Contributor to Use Cases (Primary Contributor to Case #5 with Live Feedback)
- Did Workshop on Chapter 3, 4, 5 with feedback
- Reviewed and gave feedback to all chapters
- Did Brainstorming Workshop for Chapter 6 M1V1 Feedback Edits with Feedback
- Reviewed M1V1 Feedback Edits
- Edited Competitive Analysis for M1V2 Edits

IX. Checklist

Item	Status
Team found a time slot to meet outside of the class	DONE
Github master chosen	DONE
Team decided and agreed together on using the listed SW tools and deployment server	DONE
Team ready and able to use the chosen back and front end frameworks and those who need to learn are working on learning and practicing	ON TRACK
Team lead ensured that all team members read the final M1 and agree/ understand it before submission	DONE
Github organized as discussed in class (e.g. master branch, development branch, folder for milestone documents etc.)	DONE