SW Engineering CSC648-848-05 Spring 2023

ULingual

Team 6

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Milestone #2

4/14/23

History Table

M2V2	4/14/23
M2V1	4/4/23

M1V2	4/3/23
M1V1	3/5/23

Table of Contents

Data Definitions

Main data items:

1. **Images**:
    1.1. This main data item shall be a component that is used in user profiles–where the user can upload images of themselves, a component that is used in courses where part of the lessons shall have images where the user shall have to identify what the image is in translation to their given learning language.
    1.2. Images relative to user profiles via phone shall display 110x110 pixels, on desktop it shall be 180x180 pixels. Upon uploading profile pictures, the image shall be at least 320x320 pixels–but shall be scaled down to fit the circle template profile picture.
    1.3. Images relative to lessons where the user shall identify a given image in the language they are trying to learn shall be at least 500x500 pixels.
2. **Pages**:
    2.1. This main data item shall be a component that the user will scroll through and iterate through different subsections of our service. The user shall be able to scroll down these given pages and interact and iterate through other pages within our service, given the users desired subsection choice.
    2.2. Pages shall encapsulate the entire screen of the user–relative to the size of the user's device. Pages shall be scaled properly for both mobile and desktop devices.
3. **Posts:**
    3.1. This main data item is a component that shall give users access to write and publicly post their experience of their engagement with other users via

posting a review or posting their rating experience. This data shall give users a good idea of how other users interact.

4. **Progress Bar**:

    4.1. This main data item shall be a component that shaves the users progress in regards to their course learning for a given language. The more they learn and the farther they are into their course made by ULingual, the further their progression bar shall be.

5. **Language Title:**

    5.1. This main data item shall be a component that gives the user information regarding their language choice.

6. **Forum Title:**

    6.1. This main data item shall be a component that gives the user information regarding the title of a given forum where the user can decide if they want to click on the forum title and participate in the given discussion. Forum titles shall contain phrases that categorize content upon user discussion.

7. **Forum Content:**

    7.1. This main data item shall be a component that has all the users' comments in relation to a given forum title. Within the forum content the user shall be able to view and comment on other users' discussions and make their own comments and questions in the forum so that others shall be able to comment on it as well.

8. **Enrollment:**

    8.1. This main data item shall be a component that shows whether a user is enrolled in one of the courses offered by ULingual. These courses shall be initially created by ULingual but aren't exclusively made by ULingual. If tutors want to create more curated content, ULingual shall anticipate to support this as well as providing availability for course capacity–based on the tutors course direction (asynchronous work/synchronous work).

9. **Course Index:**

    9.1. This main data item shall be a component that shows what type of courses ULingual shall offer. This data item shall also show who is

enrolled in the given course as well as a count of how many. Each course has progression, this data item shall show the individual users progression bar as well.

10.   Miscellaneous Content:

    10.1.   This main data item shall be a component that contains and stores ULinguals miscellaneous alternatives for users to learn; via music playlists, book recommendations, and show/movie recommendations. These forms of content shall be relative to the user's choice of language they desire to learn or improve upon.

Entities:

1.   Tutors:

    1.1.   An entity that created an account and is a verified personnel that excels in a given language.

    1.2.   This entity can sign in from different devices.

    1.3.   This entity shall have a unique username and password.

    1.4.   This entity shall have a unique tutor badge assigned to them.

    1.5.   This entity shall have their first and last name listed within their profile as they are verified personnel.

2.   Users:

    2.1.   An entity that created an account and can sign in from different devices.

    2.2.   This entity shall have a unique username and password.

    2.3.   This entity shall have an optional choice to list their first and last name within their profile.

    2.4.   This entity shall have access to courses provided within ULingual.

    2.5.   This entity shall have the ability to book an appointment with a tutor.

    2.6.   This entity shall have access to playlists, books, & shows recommended by ULingual in relation to the language the user desires.

3.   Courses:

    3.1.   This entity shall have exercises that the user can complete independently of video connection with other users. These exercises can include

completing given sentences, matching pictures to words, and listening to a phrase and identifying what the phrase means in the user's given language choice.

4. **Forums:**

   4.1. This entity shall be accessible by all users and tutors where they are able to interact with each other via text chat threads. Here is where users and tutors can answer questions, share information regarding language, and potentially make new friends.

   4.2. This entity shall have text chat threads that are broken down into sections. Based on these sections, the user can access different information that other users and tutors publicly post and share.

5. **Reviews**:

   5.1. This entity is a section under a user's profile where other users can leave comments about the user based on their experience in a video call with them.

   5.2. This entity is a section under a user's profile, where other users can leave a rating out of 5 stars to summarize their experience with the user on a video call. This can be done independently from comments, where a user can either leave a rating out of 5 without commenting or also leave a rating and a comment.

6. **Video Rooms**:

   6.1. This entity is a place where users can either connect with another user or a tutor to exchange and learn a language of their desire. This shall also be a space where users can also have a potential karaoke party with other users.

7. **Search bars (Weak Entity):**

   7.1. This entity shall be able to be used by the user to search for courses related to their language, books, and videos. This entity will filter through ULinguals database to find specifically what the user wants in relation to what we have in our server database.

8. **Chat Box:**

8.1. This entity shall be accessed and used by the user during a video session to be able to text with the other user just in case they are unable to use their microphone.

9. **User Profiles:**

9.1. This entity shall be customizable by the user for public display. Some customizable features shall include: banner customization, description of profile, language preferability, language knowledge, profile picture, optionally date of birth, optionally age, and preferred name/nickname.

10. **Language (Weak Entity):**

10.1. This entity shall contain all the languages that ULingual offers that the user can access and learn.

11. **Music Playlists:**

11.1. This entity shall contain music playlist recommendations in relation to the user's desired language choice. Here the user can see and browse music that people are listening to in their respective language learning choice.

12. **Books:**

12.1. This entity shall contain book recommendations in relation to the user's desired language choice. Here the user can view popular books written by authors whose natural language is in relation to the user's respective language learning choice.

13. **Movies & Shows:**

13.1. This entity shall contain movies and show recommendations in relation to the user's desired language choice. Here the user can view popular shows and movies that were made in the natural language that's in relation to the user's respective language learning choice.

Prioritized Functional Requirements

Priority 1:

1. **Audio Connection Between users**
   1.1. The user shall be able to connect and have an audio connection to speak with other users.
2. **Camera Connection Between Users:**
   2.1. The user shall be able to connect and have a camera connection with other users.
3. **Booking Video Calls with Native Speaking tutors**
   3.1. The users shall be able to book video call times from a native speaker of their preferred choice.
   3.2. The users shall be able to view future appointments they have booked.
4. **Catalog Of Available Appointments with Native Speaking tutors**
   4.1. The user shall be able to see a list of native speakers and their available time slots.
   4.2. The user shall be able to filter available appointments to meet their needs.
5. **Registering Appointments by Tutors:**
   5.1. The tutor users shall be able to set up appointments for users to book within a timeframe.
6. **Booking Appointments with Tutors:**
   6.1. The user shall be able to book appointments with specialized tutors with teaching credentials.
7. **Open Live Chat by Native Speakers:**
   7.1. Native speakers shall be able to host open live chats for users to connect to.
   7.2. Users will be able to connect to calls with native speakers to practice conversational skills.
8. **Registering an account:**
   8.1. The user shall be able to create an account.
   8.2. The user shall be able to register the account as a learner, native speaker, or native-speaking instructor.
   8.3. The user must verify their age during registration. Users must be 18+ years old.
9. **Logging in:**
   9.1. The user shall be able to log in to their registered account and use website features.
10. **Create a Profile:**
    10.1. The user shall be able to create and manage their own profile page.

10.2. The user shall be able to select a premade profile picture or upload and use one of their own.

11. User Availability:

11.1. The user shall be able to set their status to Available, Busy, or Offline/Invisible.

12. Chat Box For Video Calls:

12.1. The user shall be able to text other users during their video calls.

13. Generate Flashcards:

13.1. The user shall be able to access ULinguals generated flashcards as a small test for their desired language.

14. Create Flashcards:

14.1. The user shall be able to create digital flashcards to help them review and practice words or phrases of their desired language.

15. Language Comprehension Exercises:

15.1. The user shall be able to practice precreated exercises as a form of reinforcing their learning.

15.2. The user shall be able to complete exercises like filling in the blank of sentences, word matching, and object identification in their desired language.

16. Distinguished Teaching Symbols:

16.1. The user shall be able to display distinguished symbols on their profile indicating their level of teaching ability for a specific language.

17. Non-Verbal Translation Exercises:

17.1. The user shall have access to non-verbal translation exercises which will allow them to practice translating between two different languages.

18. Recommendation List of Books:

18.1. The user shall have access to a list of book recommendations in a specified language.

19. Recommendation List of Films/Shows:

19.1. The user shall have access to a list of movie and tv show recommendations in a specified language.

20. Playlists of Music:

20.1. The user shall be able to access playlists of music in relation to the language they desire to learn.

21. **Tutor Reviews:**

21.1. The user shall be able to leave a comment review on their experience with other users in a call.

21.2. The user shall be able to leave a rating out of 5 stars on their experience with other users in a call.

21.3. Their comments and star rating shall be shown on a given user's profile as well as the date it was posted.

22. **Global Forums:**

22.1. The user shall be able to join the global forum discussion.

23. **Friends List:**

23.1. The user shall be able to view an organized list of friends on the website.

23.2. The user shall be able to edit their username that is shown to others on the friends list.

23.3. The user shall be able to search for other users by username or user ID.

23.4. The user shall be able to send and accept friend requests to and from other users.

23.5. The user shall be able to view the status of other users on their friends list.

Priority 2:

1. **Verbal Translation Exercises:**

1.1. The user shall have access to verbal translation exercises which will allow them to practice translating between two different languages.

2. **Multi-Screen Call:**

2.1. The user shall be able to host or join a video call with multiple users.

3. **Customize a Profile:**

3.1. The user shall be able to customize their profile theme, wallpaper, and banner.

3.2. The user shall be able to set roles/tags for their knowledge of a language to be shown on their profile page.

4. **Recommended Travel Locations:**
   - **4.1.** The user shall have access to a list of recommended traveling locations based on their language roles/tags.

5. **Linking Social Media**
   - **5.1.** The user shall be able to link their account to their accounts on other social media websites.

6. **Sharing Progress to Social Media:**
   - **6.1.** The user shall have the option of posting personal course progress to linked social media websites.

7. **Structured Lesson Plans**
   - 7.1. The user shall be able to follow a self-guided lesson plan for learning basic topics using various language exercises defined above.
   - **7.2.** The user shall be able to observe their language progress in a graphical way.

8. **Tips to Tutors:**
   - **8.1.** The user shall have the option of tipping tutors after lessons based on their performance in the tutoring session.

9. **Direct messaging**
   - 9.1. Users shall be able to direct message other users from their friends list.

10. **Test to Verify Native Speakers**
    - **10.1.** The user shall be required to pass a test to confirm their mastery of the specified language.

11. **Report User Option**
    - 11.1. The user shall be able to report other users' misconduct.

12. **Friends Count:**
    - **12.1.** The user shall have the option of displaying how many other users they have connected with.
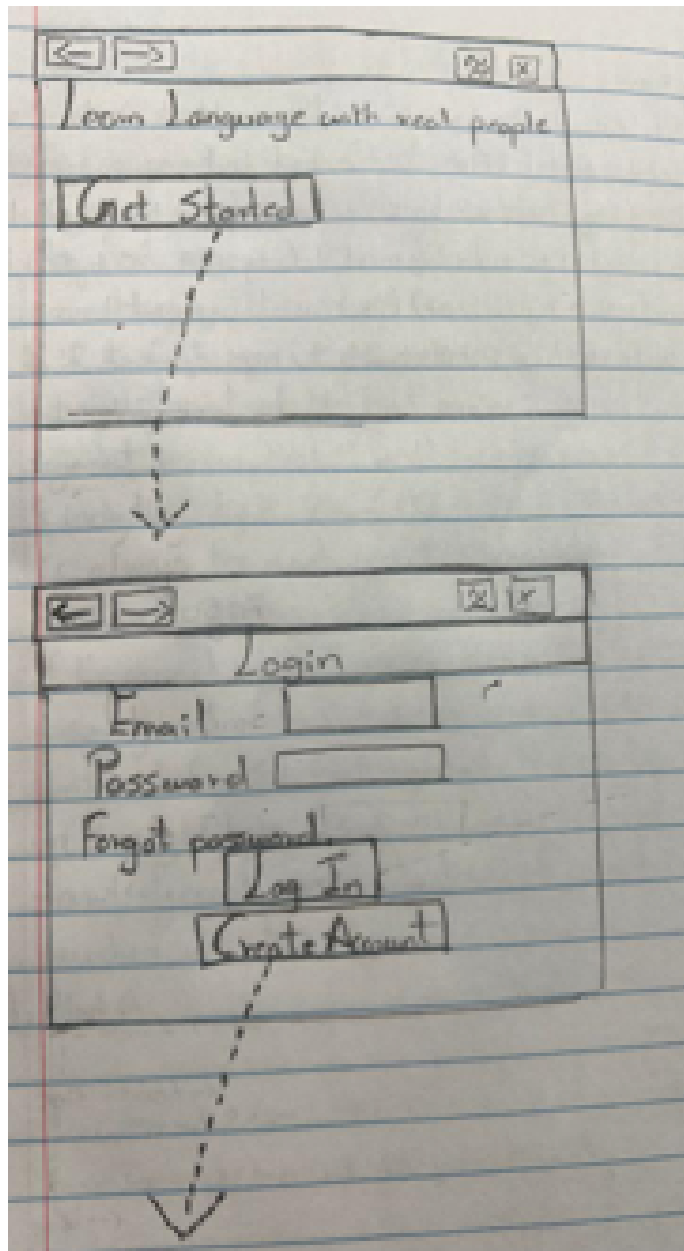
Priority 3:

1. **Transcript of Conversations Toggle:**
   - **1.1.** The user shall be given the option to select if they want their conversation to be subtitled and written on a document.

1.2. The user shall be able reference this document as support for their studies.

2. Certification of Completion:

    2.1. The user shall be given a digital certificate of completion after the user has completed a language program.

3. History of Language:

    3.1. The user shall be able to read about the history of available languages offered on the website.

4. Weekly Quiz Competition:

    4.1. The user shall be able to participate in weekly quizzes.

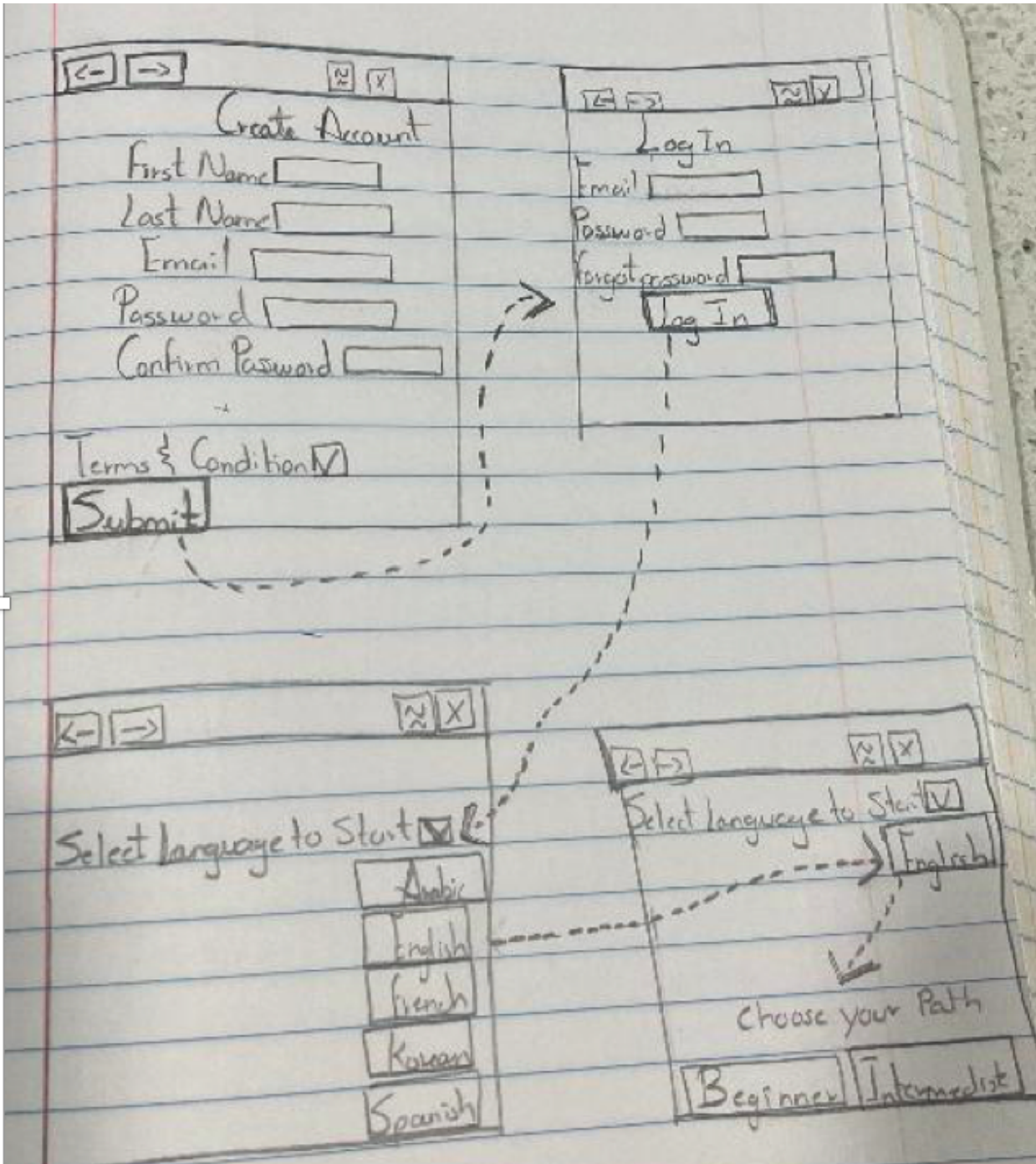   **4.2.** The user shall be able to view weekly quiz scores of other users on their friends list.

UI Mockups and Storyboards

1.This is the first page that the user shall see when first going to the ULingual website. As we see in the picture there is **Get Started** to help users start.

2.The second page shall appear after the **Get Started** button was selected for someone who doesn't have an account shall click the **Create Account** button.
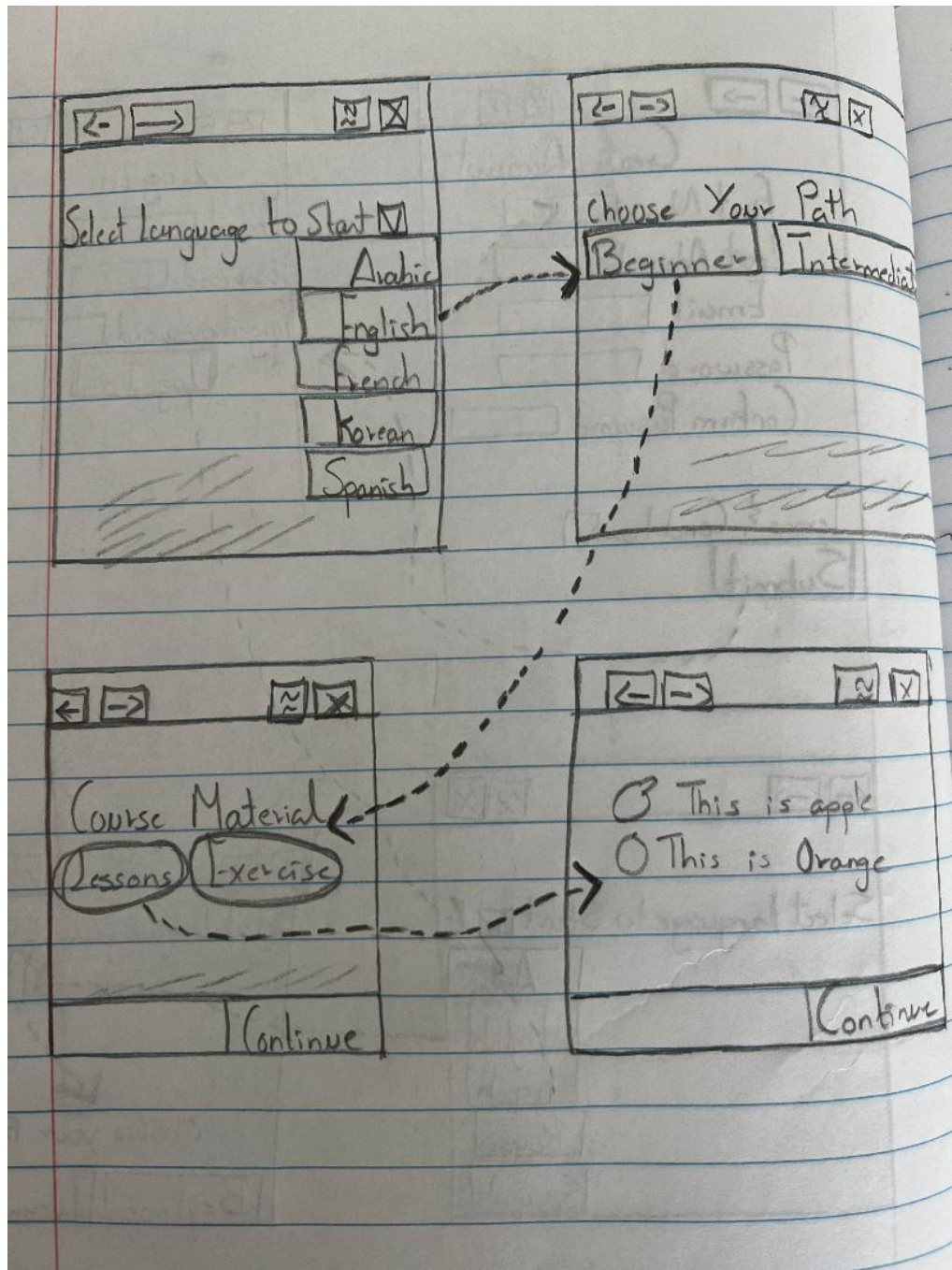
3. This page shall appear when the **Create Account** button was selected, to help the user to create their account after the **term and condition** is being checked.

4.This user shall see this from either after login or creating an account, and that is to select the **languages** they want to learn.
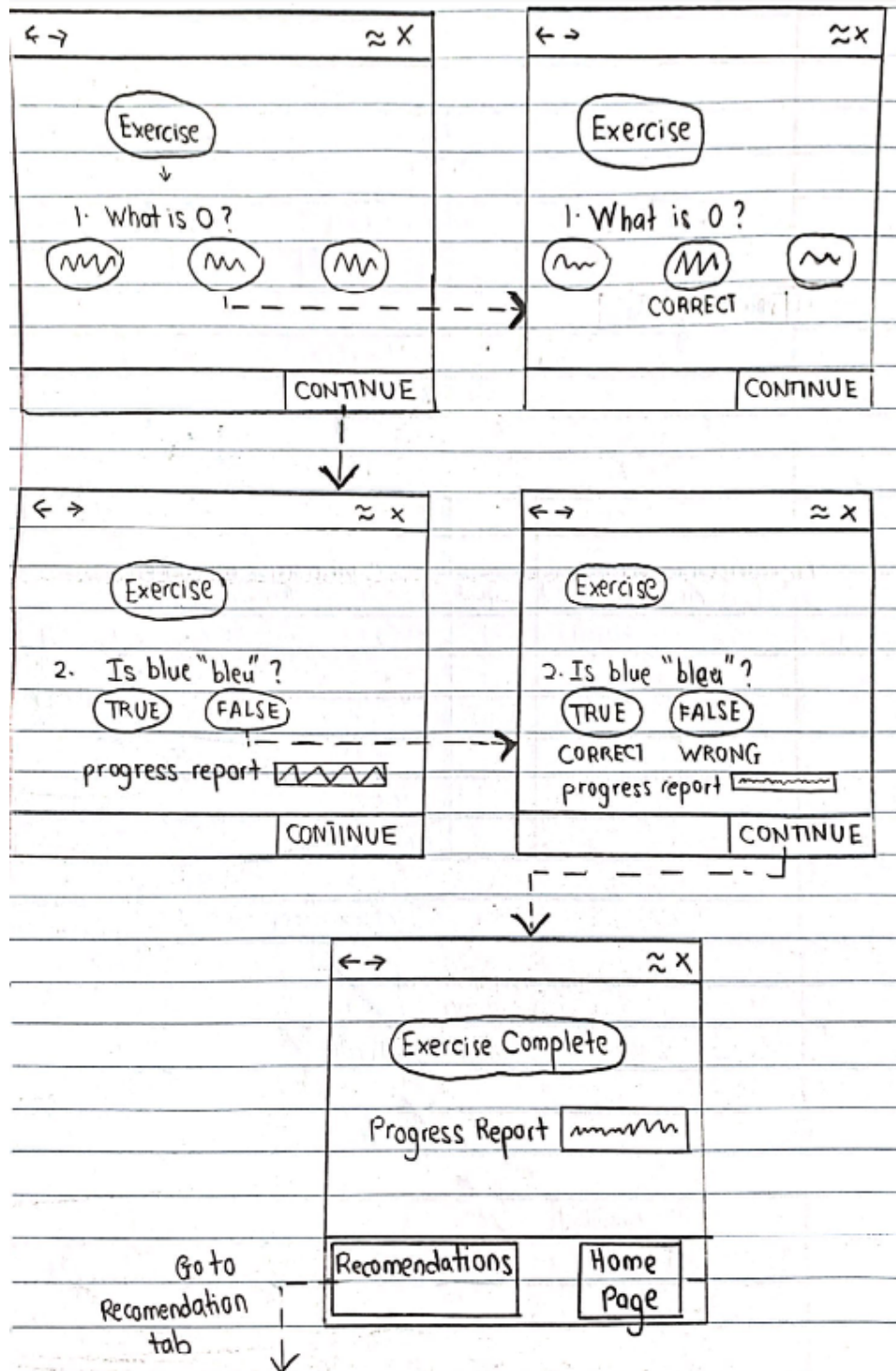
5. The user shall see this, when they select **English** as language to learn they shall be asked to choose their level from beginner and intermediate.
6. When the user selects as **Beginner**, they shall see a course material assigned to it like **lessons** and **exercise.**
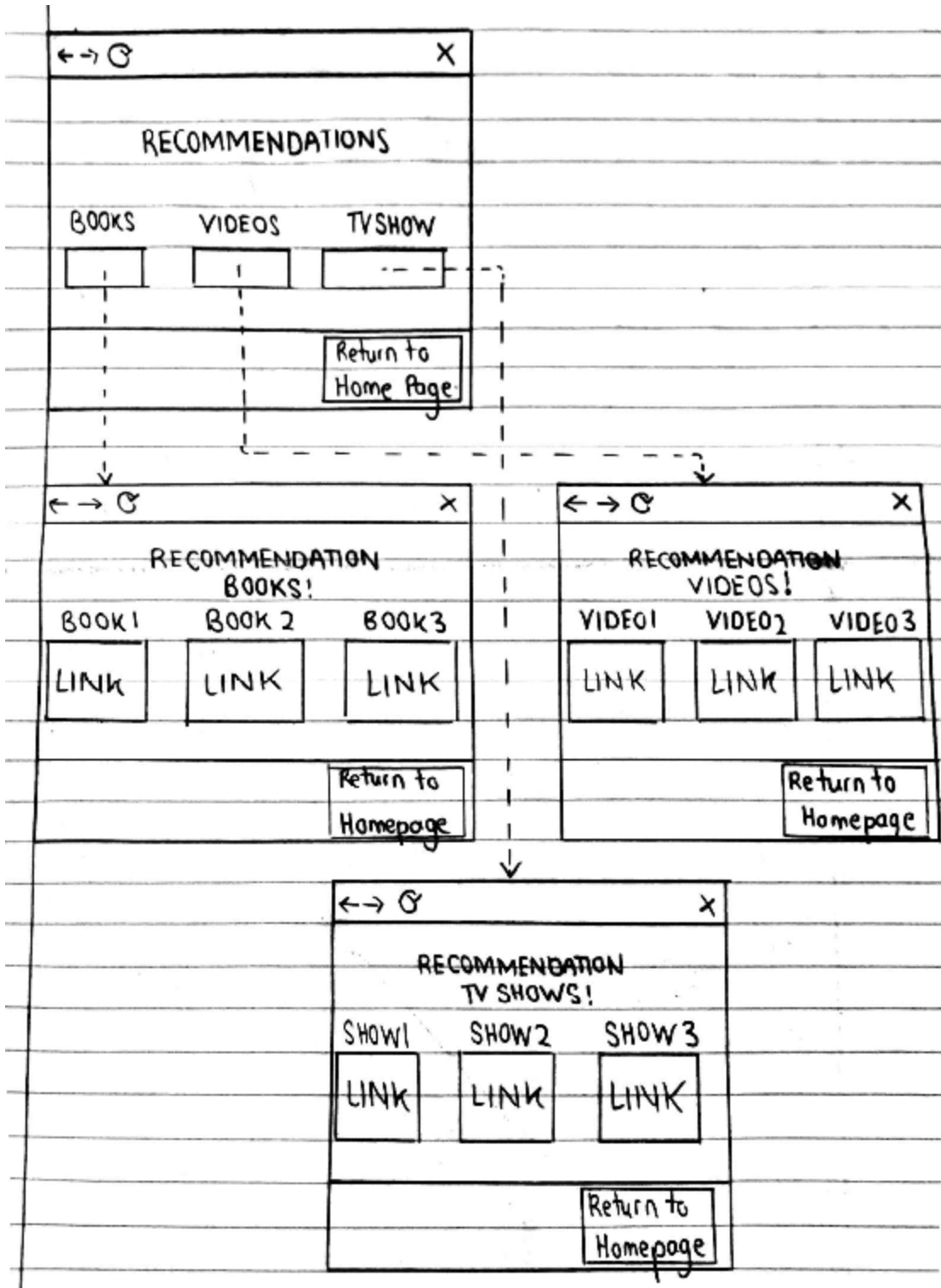
9.While the user is engaged with the **Exercise** and **lessons** there shall be a progress report at the bottom showing their progress.

10. The website shall recommend some books, videos etc.. according to the progress report.

← → ≈ X

Exercise

1. What is O ?

⌇ ⌇ ⌇

---- →

CONTINUE

← → ≈ x

Exercise

1. What is O ?

⌇ ⌇ ⌇

CORRECT

CONTINUE

← → ≈ x

Exercise

2. Is blue "bleu" ?

TRUE FALSE

progress-report ~~~~

CONTINUE

← → ≈ X

Exercise

2. Is blue "bleu" ?

TRUE FALSE

CORRECT WRONG

progress report ~~~~

CONTINUE

← → ≈ X

Exercise Complete

Progress Report ~~~~

Go to
Recomendation
tab

Recomendations   Home
                  Page

11. Recommend some books, videos etc..
12. Also, if the user selected books from the recommended button, this shall show up.

← → ↻   X

RECOMMENDATIONS

BOOKS   VIDEOS   TV SHOW

Return to
Home Page

← → ↻   X

RECOMMENDATION
BOOKS!

BOOK 1   BOOK 2   BOOK 3

LINK   LINK   LINK

Return to
Homepage

← → ↻   X

RECOMMENDATION
VIDEOS!

VIDEO1   VIDEO2   VIDEO3

LINK   LINK   LINK

Return to
Homepage

← → ↻   X

RECOMMENDATION
TV SHOWS!

SHOW1   SHOW2   SHOW 3

LINK   LINK   LINK

Return to
Homepage

Database Architecture and Organization

Entities:
      1. Students
      2.Tutors
      3.Courses
      4.Forums
      5. Reviews
      6.Video Rooms
      7. Search bar
      8.Enrollment
      9.course Index
      10.Miscellaneous Content

Entities Relationships:

Students:
- -Shall enroll One-to-more courses(1:M)
- - Write One-to-more reviews (1:M)
- - have access one- to more video rooms(1:M)
- - Shall use search bar to search courses
- - Shall access Miscellaneous Contents

Tutors:
- Shall teach one or more courses(1:M)
- Shall participate in one or more forums(1:M)
- Shall have access for one or more video call(1:M)
- Can have access to write one or more review (1:M)

Courses:
- Shall be given by one or more tutors
- Shall have one or more students enrolled
- Shall have one or more forums
- Shall have one or more video rooms
- Shall have one more miscellaneous contents

Forums :
- (1:M) linked one or more courses

- (1:M) participated by one or more tutors and students.

Reviews;
- Review can be connected to one course.
- Can be written by one tutor or student

Video Rooms;
- Video room shall connect to one course
- Shall be accused by one or more students and tutors

Search bar:
- Shall be accessed by one or more users

Enrollment:
- Connect to one courses
- Connect to one student

Course Index;
- Shall be linked to one or more courses
- Shall be accused by one or more

Miscellaneous Content
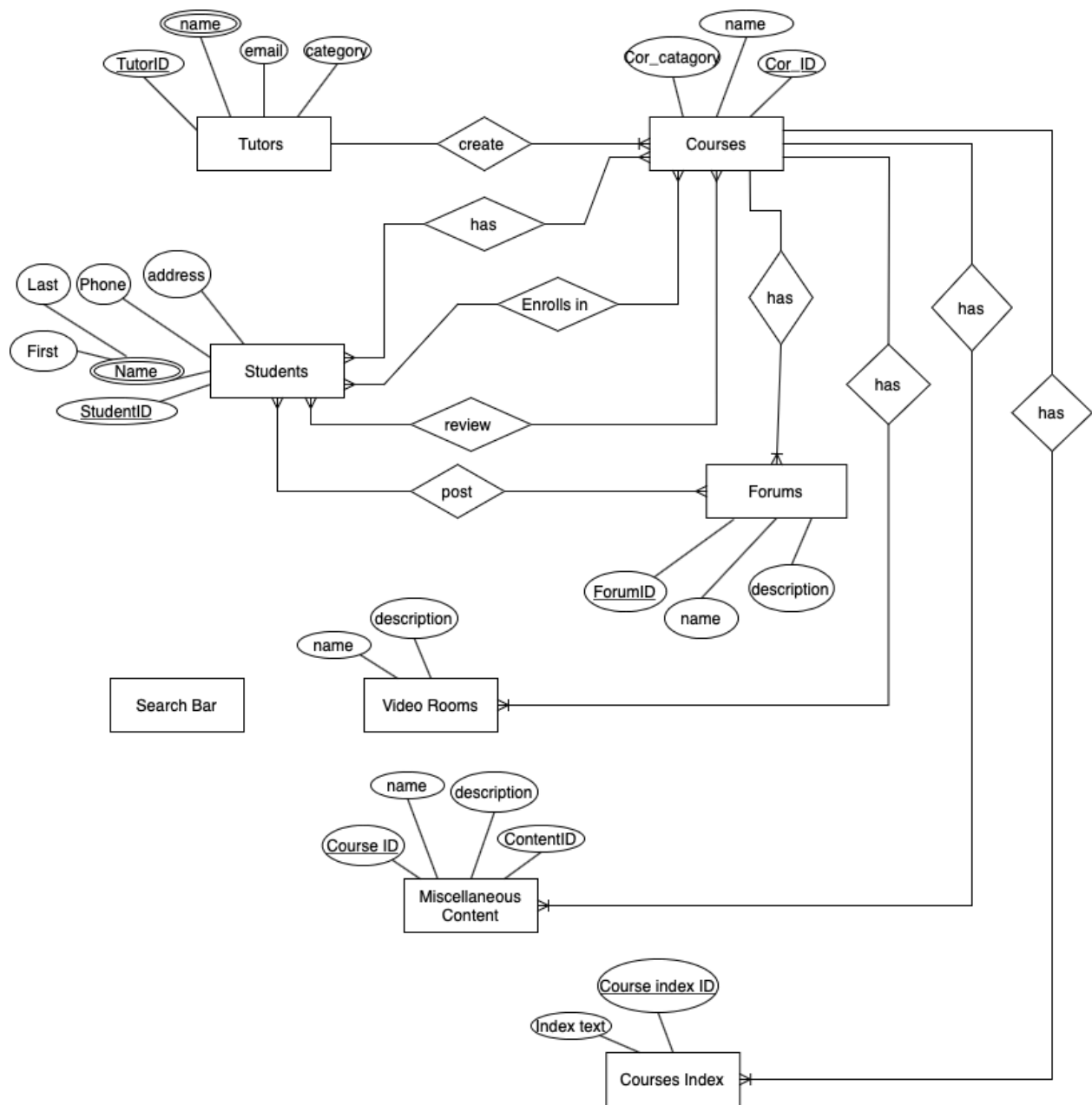- (1:M) one or more courses
- (1:M) student or tutors access it

Entity Domain
- Student ID: INT, unique identifier, primary key,
  name: varchar(32), not null
  email: varchar(32), not null, unique
  Course: varchar(32)

- Tutor ID: INT, unique identifier, primary key
  name: varchar(32), not null
  email: varchar(32), not null, unique
  category: varchar(32)

- Course ID: INT, unique identifier, primary key
  name: varchar(100), not null

category: text

- Forum ID: INT, unique identifier, primary key
  name: varchar(100), not null
  description: text
- Review ID: INT, unique identifier, primary key
  Review text: text, not null
  rating: decimal(2,1), not null

- Video Room ID: INT, unique identifier, primary key
  name: varchar(100), not null
  description: text

- Enrollment ID: INT, unique identifier, primary key
  Course ID: integer, foreign key referencing Course entity
  Student ID: integer, foreign key referencing Student entity

- Course Index ID: INT, unique identifier, primary key
  ID: integer, foreign key referencing Course entity
  Course Index text: text

- Content ID: INT, unique identifier, primary key
  ID: integer, foreign key referencing Course entity
  Content name: varchar(100), not null
  Content type: varchar(20), not null

- Miscellaneous Content;
  Content ID: INT, unique identifier, primary key
  Course ID: integer, foreign key referencing Course entity
  name: varchar(100), not null
  type: varchar(20), not null

3.ERD Diagram

4. In this project MySQL database management system(**DBMS**) chose to create the database. Why? Because, MySQL store supports relational database systems, stores data across multiple tables and it's a good fit for our applications that meets our required high performance.

- Media storage: Images and video/audio will be stored in a file system on the server.
- search/filter architecture and implementation: Depending on how me and the team implement the application we should use one of this search/filter architectures
  - Search by Course name or Course ID.
  - Filter by Tutor, Course Level, Course category.

APIs and Main Algorithms

Functional Requirements that will require API/algorithms:
Priority 1:
1. Audio Connection Between Users (API)
   1.1. Twilio, free "Video WebRTC Go" tier for 1 on 1 calls. We plan to use this API to allow for video connection between user and tutors. Twilio also offers video call transcription, a feature we plan to implement.
2. Camera Connection Between Users (API)
   2.1. Twilio, free "Video WebRTC Go" tier for 1 on 1 calls
3. Catalog of Available Appointments with Native Speakers (Algorithm)
   3.1. Algorithm to display appointments that are able to be booked from the database

Priority 2:
1. Chat Box for Video Calls (API?)
   1.1. Custom API for sending, receiving, and displaying text chat between users. Live chat will be displayed during video calls.
2. Generate Flashcards (Algorithm)
   2.1. Algorithm to generate or access a set of language practice cards flash cards.
3. Language Comprehension Exercises (Algorithm)
   3.1. Algorithm to verify correct answers to language comprehension exercises.
4. Verbal Translation Exercises (API)
   4.1. API to verify correct answers to verbal translation exercises.
5. Non-Verbal Translation Exercises (Algorithm)
   5.1. Algorithm to verify correct answers to non-verbal translation exercises.
6. Multi-Screen Call (API)
   6.1. API to maintain calls between more than two users. Twilio API free version limits to 2 users.
7. Book Recommendations (Algorithm)
   7.1. Sorting algorithm to list books in a to be determined order.

8. Movie/Show Recommendations (Algorithm)

    8.1. Sorting algorithm to list movies/shows in a to be determined order.

Priority 3:

1. Google Translate (API)

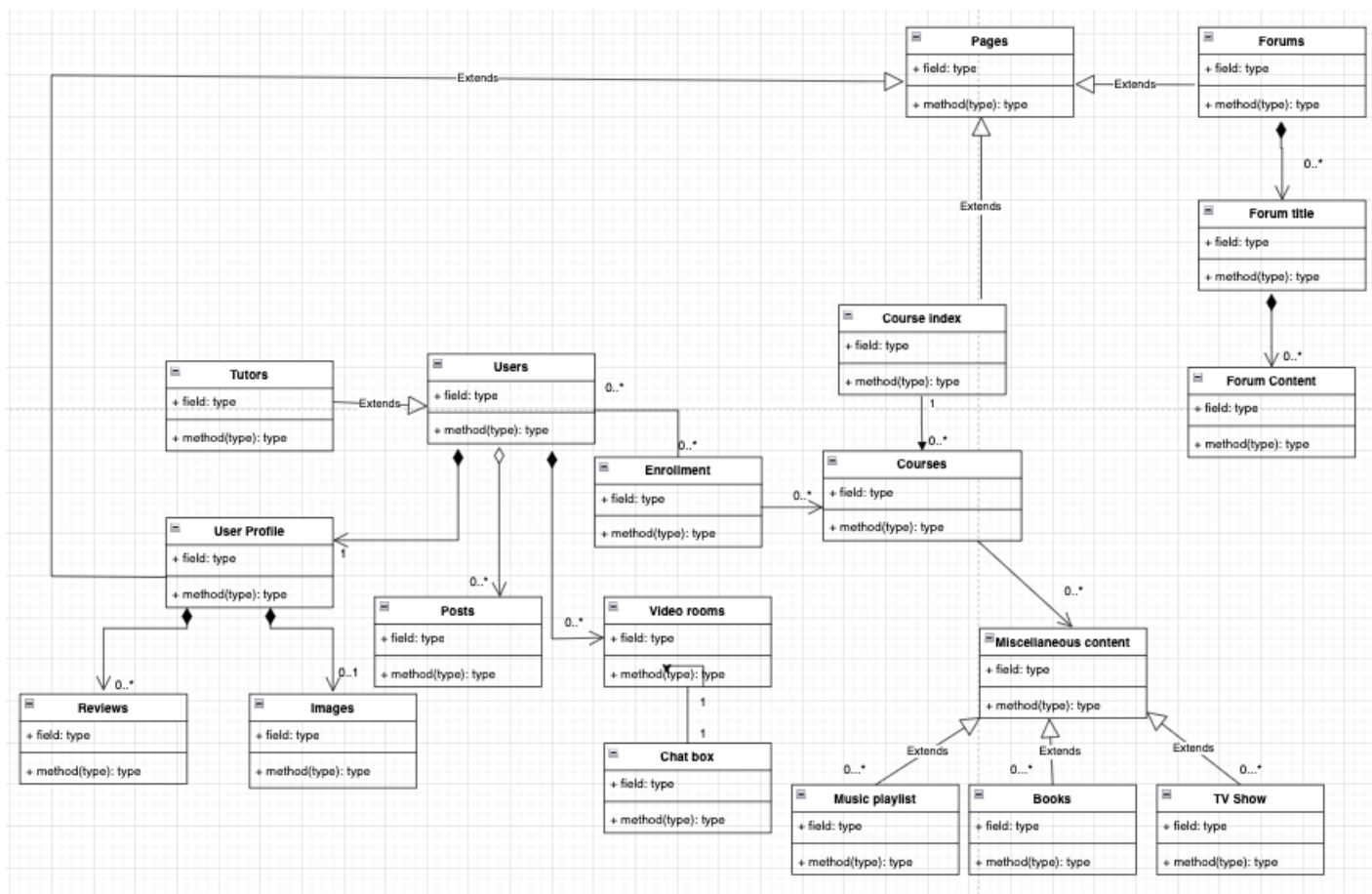   **1.1.** For general translation.

2. Social Media (API)

    2.1. Using Social Media APIs for linking and sharing progress.

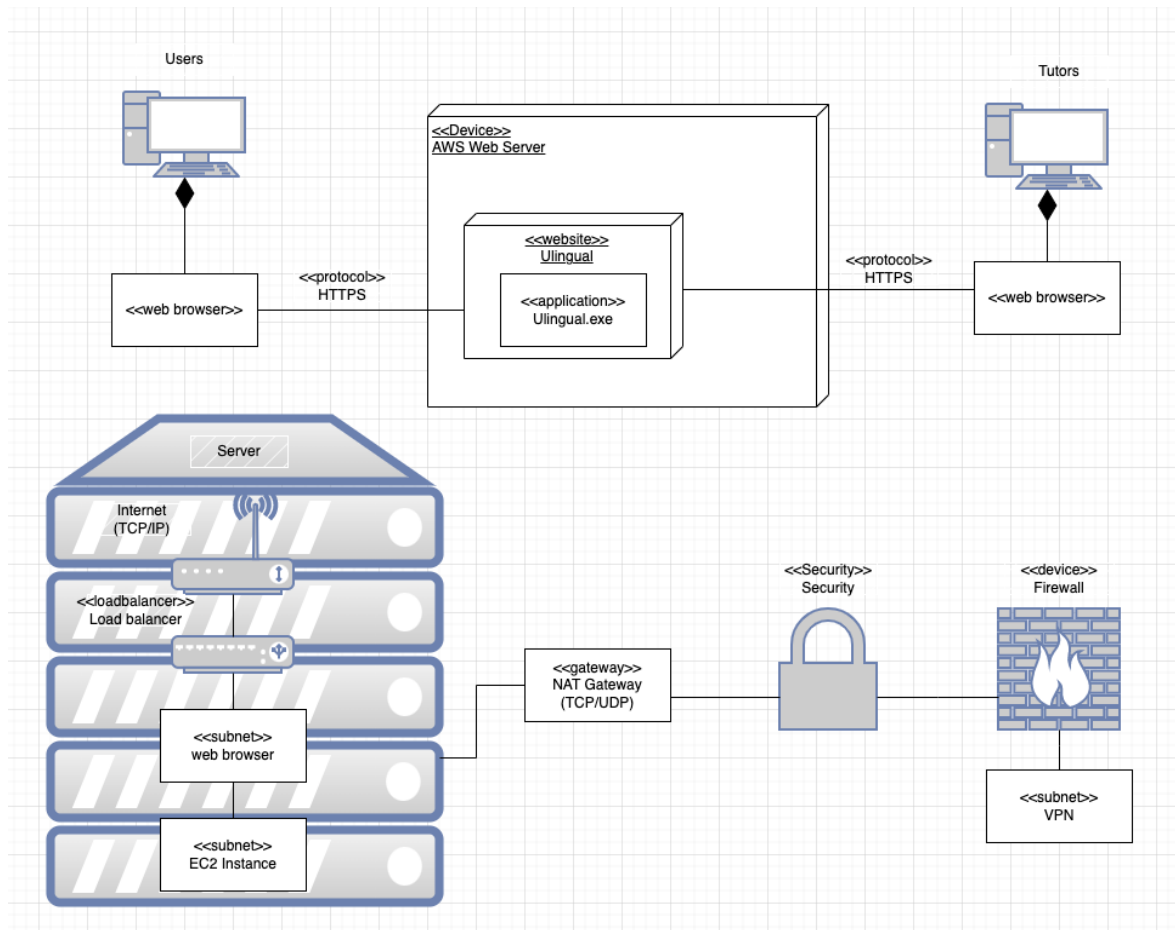**3.** Language Difficulty (Algorithm)

    3.1. Sorting algorithm to rank by difficulty according to other users.
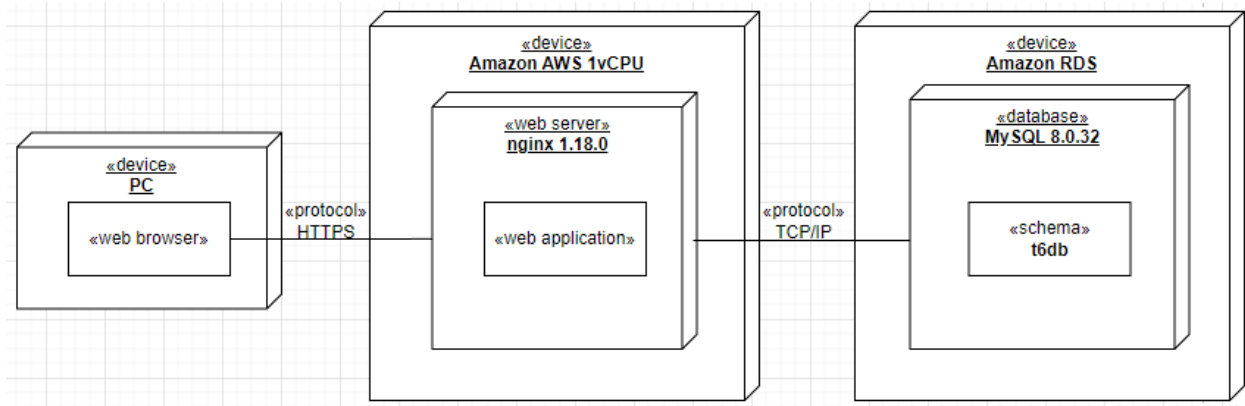
UML Diagrams

Application Network and Deployment Diagrams

Application Network Diagram

Deployment Diagram

Key Risks

1. *Skill Risks*:

    1.1. We all know a bit of javascript, our framework is React.js which is somewhat different from javascript. Although not impossible, it will be more effort to learn and improve our skills within React,js through the project.

The majority of the team does know a bit of javascript which is great; our only obstacle is using javascript and connecting it with React.js utilizing both of their capabilities to help advance our product. The resolution to this risk is simple but is great, there are plenty of resources and communities online that help assist with understanding React.js. Sending each other these resources and being helpful towards each other can help resolve this risk.

2. *Schedule Risks*:

    2.1. We all currently attend our meetings via Zoom on Tuesday afternoons; however, as the team lead I feel we should definitely meet more than once a week especially as we get further into development and need more things to complete.

The majority of the team can meet on Tuesdays after 4:00pm, I'm going to introduce the idea of also meeting on Thursdays from 5:00 to 6:00 based on the form information I was provided based on my team's schedule input. If we all agree to this we can have more time to speak with each other, collaborate, and help each other through our development.

3. *Technical Risks*:

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3.1. Creating a proper and efficient pipeline system for our product. A proper system architecture, where everything interlinks properly from our github, to our server instance, to our github information.

We anticipate that we will learn in class how to create a proper pipeline connection for our product. If we don't, we anticipate getting assistance via office hours through our professor (CTO). Our final option will be to search the web for assistance to assist with proper system architecture (pipeline).

4. *Teamwork Risks*:

4.1. In the previous milestone we did encounter some inactive teammates who did not complete given tasks assigned and if they did it was past the assigned due date. This potentially could occur within this milestone as well.

I anticipate that the teamwork risks experienced in milestone 1 will not be present in milestone 2. I expressed to the professor(CTO) the teamwork issues experienced and I believe he spoke with them. I as the team lead am always here to help my team, they just need to ask questions and reach out in proper due time. I will be here to assist but I will also reach out to them more to check in on everyone's progress to make sure they are up to date with their work.

5. *Legal/Content Risks*:

5.1. We do have intentions to have ULingual be subscription based. We also have intentions to have users pay exclusively for certain tutors. The main issue is developing or using the proper licensed technology to process these transactions securely.

We anticipate to do further research as we further reach the end of our structural build of ULingual. We will definitely go to the professor when it comes to this feature and ask for his input in regards to how to go about this feature. There are resources online that can help us with this issue we potentially face as well; however, we much rather would go the route our professor (CTO) prefers.

Project Management

In terms of the documentation portion of milestone 2, work was disbursed based on two factors: balanced workload & relative role in relation to assigned work. Each member within the team has at least 2 sections to work on whether it's independent with themselves or dependent in collaboration with another teammate. I assigned tasks and notified my team via Discord initially just to give everyone a heads up. I also created a Trello dashboard to display each person's tasks to complete within the team–Trello is visually much more pleasing when it comes to seeing what tasks need to be done. Not only is it visually more appealing but I'm able to see the status of my team's progression for the task. I plan to continue to use Trello in future milestones as an additional tool for management because it's very smooth and easy to use.

In terms of the Vertical Software Prototype, the work was distributed upon the back-end developers and the front-end developer. Upon progression within this milestone near the end, our ec2 instance was giving us issues where we could not log back into ec2 via ssh. With this in mind, I–the lead found an alternative method to deploy our project via aws amplify. This connects our github repository in its respective branch to a hosting and deployment server via aws amplify. AWS Amplify automatically updates our application with the pushes we make to the github. It was me and the back-end devs that created a rough template layout for the homepage setup. It was nice to get a good start with the react framework, we actually enjoyed a lot of the features it had; making it easier to code certain things.

List of Contributions

Sara Murad Ahmed Seid:
- Contribution Score: 6

Sara attended all meetings but one meeting for milestone 2s meetings. The one meeting she missed was quite an important meeting though as I discussed the Vertical Prototype and what needed to be done–especially being the front-end developer. Sara did Section 3(UI Mockups and Storyboards) and also helped brainstorm with Section 1 (Data Definitions). Sara was in the transition of moving to a different apartment so I was more lenient towards her in this milestone; however, when it came to the coding section for the Vertical Prototype Sara didn't code much–especially as a front-end developer. It partially wasn't her fault as our ec2 instance ran into issues and it was hard to communicate how to collaborate together. I tried reaching out to tell her to communicate with the back-end developers for assistance but she did not do so until the very last minute when it wasn't helpful.

Steven Anthony Vasquez:
- Contribution Score: 9

Steven has been a great help again to this milestone. He's attentive during meetings and always gives great feedback. Additionally he was assigned Section 2 (Prioritized Functional Requirements) and Section 5(High Level APIs and Main Algorithms). Steven contributed a great effort to these sections. In addition, Steven also helped me with the formatting and structure of our home page Vertical Prototype for this milestone. Steven also helped with routing on the homepage. Since we are within the react framework, routing works a bit differently, and Steven helped set up these routes. Overall, his contribution was very much appreciated.

Nik Shahrul Nafiz Bin Nik Azhan:
- Contribution Score: 8

Nik has been a great help to the team. He's always positive and willing to help–even if it's outside the scope of his assigned role. Nik always attends meetings and asks questions when he doesn't understand something–which is appreciated. Nik was assigned Section 6 (High Level UML Diagrams) and Section 7 (High Level Application Network and Deployment Diagrams) with John. They created very elaborate and nice diagrams that well described our progression and architecture setup. Nik also assisted in some of the style and formatting within our homepage layout. Overall his positivity and assistance outside the scope of his role is much appreciated.

Elias G Yetechalew:
- Contribution Score: 6

Elias attended all the meetings for this milestone. He did not speak much during the meetings but he did assist with ideas in relation to Section 1(Data Definitions). Elias was also responsible for Section 4(High level database architecture and Organization). I set an initial deadline and it was not met, I set another second and final deadline for this section to be added to the document and it wasn't met as well. I'm hoping Elias takes deadlines more seriously in the future because it's not fair to me or the team to work hard to meet deadlines and Elias doesn't–especially with no external circumstances occurring.

John Lee Santiago:
- Contribution Score: 10

Johns has also been a great help, giving me reminders about things and little details I may miss within the milestone. He's always there during meetings and provides feedback. John as the document editor does a great job making sure documentation is nice and formatted. He also was assigned Section 6 (High Level UML Diagrams) and Section 7 (High Level Application Network and Deployment Diagrams). He as well as Nik created very elaborate and nice diagrams that well described our progression and architecture setup. John also helped resolve ec2 instance issues that were occurring and created a completely new instance that was linked to rds that had mysql linked within it. He helped debug issues resolving dependencies surrounding our frontend and backend for the website.

Aidan Carl Stivers:
- Contribution Score: 7

Aidan was helpful, he would attend all the meetings that we had. He gave great feedback and inputs towards our discussion and progress towards milestone 2. Aidan along with Steven was responsible for Section 2 (Prioritized Functional Requirements) and Section 5(High Level APIs and Main Algorithms). Aidan and Steven did a great job

on the sections. Aidan did not contribute much code to the Vertical Prototype in comparison to Steven–as a back-end developer this shouldn't be the case. This is why I'm taking away one point from Aidan in comparison to Steven.

Jonathan Oscar Valadez:

Within Milestone 2, I was responsible for Section 1: Data Definitions within the documentation. I also worked on the Key Risks section within the documentation. Besides that for the documentation I mainly put most of my focus within the Vertical Prototype. For the Vertical Prototype, I made the navigation bar–not including the search bar, the logo for the website, the home page–"dummy" landing page. I made the footer for the Vertical Prototype. I made the login page, and the create an account page. I routed a lot of the navigation bar, for example the login button, tutors button, faq button, and results page. I set up the "dummy" page for the results page using a search bar but we weren't able to implement the data pull using the search bar in time.