For next semester, we have tasks that we still need to complete. The following tasks are required to bring our end product together.

**Front-End Development:**

* Phase 1:
  + Sketch and design the front-end web app prototype according to requirements that were collected and then present to WPD for evaluation. After receiving feedback, the team will modify the prototype accordingly and present again until satisfied.
* Phase 2:
  + Transform all the requirements from prototype into actual system using relevant front-end framework (React.js) with the best development practices to ensure the product is developed in the most efficient way.
    - Build reusable code
    - Ensure technical feasibility of UI/UX design
    - Optimizes application for maximum speed and scalability
    - Assure that all user-input is validated before submitting to back-end
* Phase 3:
  + Once the development process is complete, the app will be deployed to test the functionality of the app and to ensure the app works according to the specified requirements.

**Backend Development:**

* We need to develop the backend side by using Node.js.
* We will use github to cooperate and construct the code together.
* We will start designing our backend side project based on MVC software architectural pattern.
* Start developing and structuring the HTTP endpoints (REST API), such as fetch data, sign in users, sign up new users, and etc
* We will link the backend side with the database by using Mongoose.
* We will start sorting the data.
* We will make sure that the APIs are secure.
  + Prevent NoSQL Injection.
  + XSS Protection and security Headers.
* Upload the source code to Cloud server to host the server.
* Handling the server errors.

**Database:**

* We will set up mongoDB, and link it with the backend side.
* We will keep the mobile application synced to the web-based application to keep the data up to date.
* We will link that WPD provided information onto the database.
* We will start building the models, such as User and Cases.
* We will be using the mongoDB object modeling for Node.js (Mongoose).
* We will ensure that the web-based application successfully connects to the database and pulls the appropriate data.
* We will securely store and encrypt the passwords.
* We will store the data in the correct tables, along with the correct data types.

**Mobile development:**

* We need to develop the mobile application by using Flutter.
* We will start designing our mobile app project based on MVVM software architectural pattern.
* Using the HTTP package inside the mobile app to send requests to the endpoints that we developed it on the server.
* We will use the Hive package to store the data locally after we fetch it from the server.
* Develop the QR code generator inside the app.
* Develop the QR code scanner inside the app.
* Implement the functionality code to read the PDF files, and cache them inside the phone storage.
* Test the mobile app performance.
* Export the app to iOS and Android platforms.

**UI & UX side:**

* We will meet with the WPD so they can check the prototype that we could not check with them this semester unfortunately.
* We will work on testing the prototype with the WPD.
* We will finalize the design of the application before going to the programming side of the application.
* Then we will work on designing the icons, layout and screens of the application using the prototype we had made.
* Then we will test the UX for the application and make changes as we need to make the best usability case for the application.

**Timeline:**

1. We will setup a meeting with the WPD around the 2nd/3rd weeks of the next semester
2. Mobile, back-end, and front-end will be completed around the 7th/8th week of next semester.
   1. App server
   2. Back-end server
   3. Database
   4. Front-end structure/organization of data
3. All of the testing for the prototype of the application should be done around the 10th week of next semester.
4. The second prototype of the application should be done in the 13th week of next semester.
5. We will be ready for the open house presentation by the 13th week of next semester.

“I have read the entire report and it meets my personal quality standards” Signed by **Abdulrahman Alharbi**

“I have read the entire report and it meets my personal quality standards” Signed by **Dhari Alenezi**

“I have read the entire report and it meets my personal quality standards” Signed by **Andrew Nguyen**

“I have read the entire report and it meets my personal quality standards” Signed by **Elina Do**