Home

Digital Health (DI)

COMP90082-2023-SM1-DI-Redback

Project Details

Quick Access

Presentations	Meetings	Plan	Development
Requirements	Research	Trello	

Roadmap And Assignments Deadline
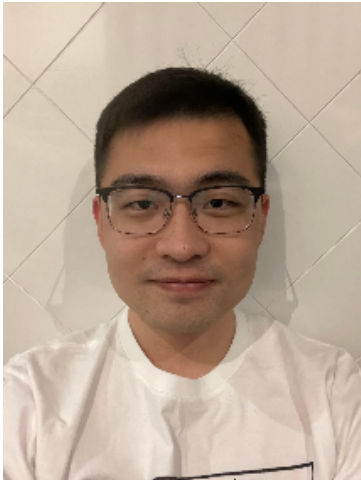
- ☐ **Client Meeting Every Friday** **4pm – 5pm**
- ☐ Sprint 1: Inception (or design sprint) **24 Mar 2023** 13:59
- ☐ Peer Review #1 (self+team) [10-15mins assessment task] 06 Apr 2023 23:59
- ☐ Sprint 2: Development 28 Apr 2023 13:00
- ☐ Peer Review #2 (self+team) [10-15mins assessment task] 19 May 2023 23:59
- ☐ Sprint 3: Development 26 May 2023 13:00
- ☐ Final presentation 26 May 2023 23:59
- ☐ Professional Skills #2 (self-assessment) [10mins assessment task] 26 May 2023 23:59
- ☐ Contributions to project [no submission here] 09 Jun 2023 13:00
- ☐ Sprint 4: Product 09 Jun 2023 13:00
- ☐ Self-reflection report[1-2days assessment task] 09 Jun 2023 13:00
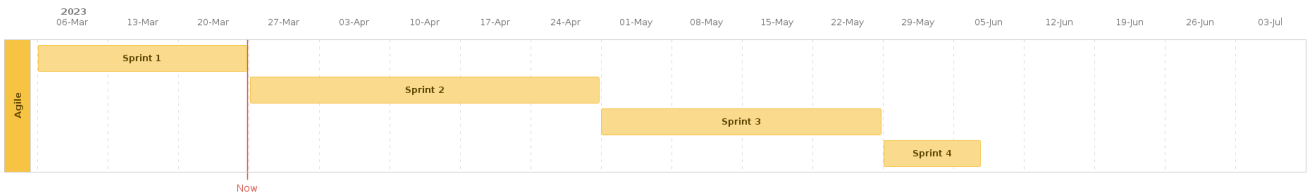
Stakeholders

Name	Role	Contact
Mauro Mello Jr	Supervisor	Email: mauro.mellojr@unimelb.edu.au
Dr Vlada Rozova	Client	Email: vlada.rozova@unimelb.edu.au
Dr Mike Conway	Client	Email: mike.conway@unimelb.edu.au
Dr Daniel Capurro	Client	Email: dcapurro@unimelb.edu.au

Team

Name	Role	Photo	Contact
Lang Cao	Product Owner		Email: lancao@student.unimelb.edu.au Phone: 0412856668
Mingjun GAO	Developer		Email: mingjung1@student.unimelb.edu.au Phone: 0414640105
Jiacheng WANG	Developer		Email: jiacwang3@student.unimelb.edu.au Phone: 0481275596
Yanxi KE	Developer		Email: yake@student.unimelb.edu.au Phone: 0424641265
Runzhe Hua	Scrum Master		Email: runzheh@student.unimelb.edu.au Phone: 0432959598

Recent space activity

Mingjun GAO

Development updated 4 minutes ago • view change

Teams Meetings updated 5 minutes ago • view change

Supervisor Meetings updated 6 minutes ago • view change

Client Meetings updated 7 minutes ago • view change

22/03/2023 Team meeting updated 9 minutes ago • view change

Space contributors

- Mingjun GAO (4 minutes ago)
- Lang Cao (50 minutes ago)
- Jiacheng WANG (3 hours ago)
- Runzhe HUA (6 hours ago)
- Yanxi KE (6 hours ago)
- ...

Requirements

- Paper Prototype
- User Story
- Background
- Motivational Model
- Development Environment
- Personas

Background

Background

When a patient sees a doctor, the doctor records the patient's symptoms. However, doctors will abbreviate or modify it for the convenience of recording according to personal habits. The description of the symptoms that led to these symptoms is not part of the Universal Indication List. This makes it difficult to count and analyze symptoms. Therefore, it is necessary to turn the original file into a Universal Indication List.

About Clients

There are three industry partners becoming clients. there are Vlada Rozova, Mike Conway, and Daniel Capurro. The first two of them will be our contacts.

Client Goals

The core functionality of the project is to allow users to upload CSV files, algorithmically map the raw data files (CSV) to a list of common indications, and host this functionality through a local interface. The customer wishes to implement the system in two modes. One model is for researchers to directly upload data and then download transformed data from the system. Another mode is that after the researchers upload the data, they modify the wrongly mapped data through the interface to improve the system algorithm. In order to ensure that only relevant researchers can use the system, user login and registration are required. But only a handful of researchers will use the system, so it requires no administrators.

System

According to the customer's goals, This is just a mapping system.

Scope

In Scope

Digit Health aims to provide a mapping system so that users can map the raw plaintext to the Universal Indication List. Web-based and Natural Language processing technology is necessary. The mapping algorithm needs to be learned in the working process. One of the users corrects the mapping result, and other users also can get the correct mapping result if the input is similar. In addition, the data needs to be encrypted so that it will not be stolen.

Out of Scope

In the project, it is hard to identify if the user is a human or a robot to get a huge mapping result. In addition, there is not much mapping data, therefore, machine learning is not one of the tasks in our project.

Functional Requirements

Version 2

    a. The system should be able to convert non-standard disease descriptions into standardized disease descriptions(allow download results). And they want to see the results(each data) of the mapping.
        i. The raw plaintext or data including unnecessary text or incomplete names needs to be mapped to the database as much close as it can.
        ii. There are two main parts of the mapping system
            1. Mapping raw plaintext to SNOMED ST
            2. Finding the SNOMED ST is not the Universal Indication List or not.
    b. The system should allow researchers to modify the results to help the system improve its algorithms.
        i. After the user maps their result, they can see them in the table and then change to the correct one if there is an error in it.
        ii. This behaviour needs to be recorded in the database
        iii. Each time user modifies the result, it will be saved to the database, and then if the raw text appears again, it will be mapped by the new result.
    c. The system should allow researchers to export the results into a file for further analysis.
        i. The CSV files can be downloaded
    d. The system should visualize the accuracy of the mapping situation.
        i. Showing the part of data that cannot be mapped or is not sure to be mapped and how many of them can be confirmed for mapping.
    e. The system can be switched to pipeline mode
        i. Once the mapping system is reliable, the user may have a large number of raw plaintext, the user only needs to upload and then download it as quickly as possible.

Version 1

1. Mapping System
    a. The system should be able to convert non-standard disease descriptions into standardized disease descriptions(allow download results). And they want to see the results(each data) of the mapping.
        i. The raw plaintext or data including unnecessary text or incomplete names needs to be mapped to the database as much close as it can.
    b. The system can provide a database of standardized disease descriptions that researchers can access.
        i. the Universal Indication List will be provided by clients.
    c. The system should allow researchers to modify the results to help the system improve its algorithms.
        i. after the user maps their result, they can see them in the table and then change to the correct one if there is an error in it.
        ii. This behaviour needs to be recorded in the database
    d. The system should allow researchers to export the results into a file for further analysis.
        i. The CSV files can be downloaded
    e. The system should visualize the accuracy of the mapping situation.
        i. Showing the part of data that cannot be mapped or is not sure to be mapped and how many of them can be confirmed for mapping.
    f. The mapping algorithm can be upgraded by users modified or manually.
        i. each time user modifies the result, it will be saved to the database, and then if the raw text appears again, it will be mapped by the new result.
        ii. It may have multiple mapping algorithms in systems, but they may not be efficient over time. It weight in each algorithm needed to be upgraded.
2. Account system
    a. Password is sent by Email to create a new account or reset the password.
    b. The system should encrypt all users' information data.
        i. Having a random individual ID for each user.
    c. ~~The system should allow administrators to manage research and modify information (create, modify, query, delete).~~
    d. ~~The system should allow the administrator to back up information and algorithms.~~
        i. ~~only save the key weight~~
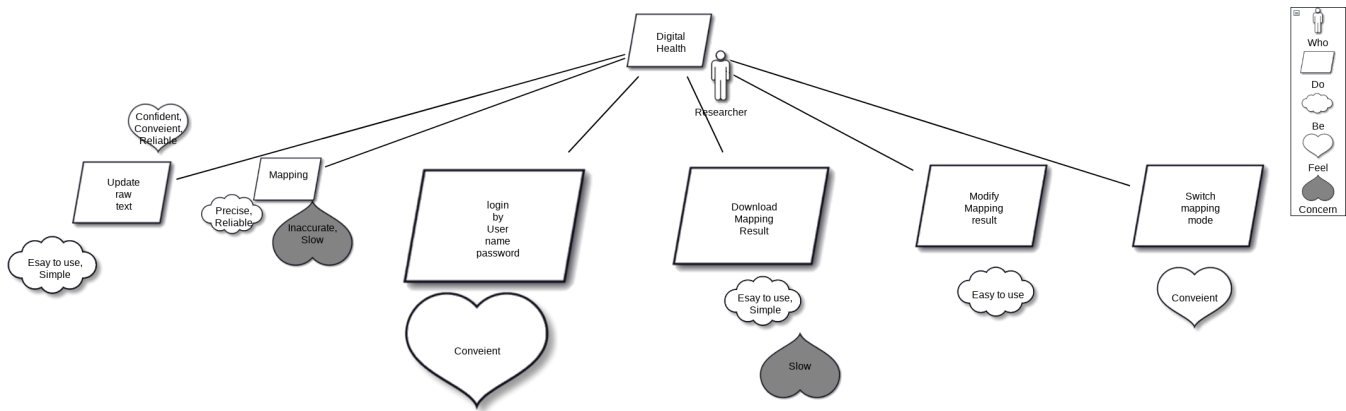
Motivational Model

V2

Do-Be-Feel-Who List

Who	Do	Be	Feel
• Researcher	• Login by username and password • Update raw text • Download Mapping Result • Modify Mapping result • Switch mapping mode • Mapping	• Easy to use • Simple • Responsive • Simple • Intuitive • Precise	• Confident • In control • Convenient • Reliable

Motivational Model

V1

Do-Be-Feel-Who List

Who	Do	Be	Feel
• Doctor • Researcher • Administrator	• Create account • Sending Email • Upload raw plain • Manage different account • Visualise Mapping result • Mapping raw plaintext to database • Modify the mapping result • Export or download the mapping result • Encrypt all data • Update Mapping algorithm • Change user information • Change password	• Easy to use • Simple • Responsive • Simple • Intuitive	• Confident • In control • Convenient • Reliable

Motivational Model

Digital
Health

Researcher

Update
raw
text

Confident,
Conveient,
Reliable

Esay to use,
Simple

Mapping

Precise,
Reliable

Inaccurate,
Slow

login
by
User
name
password

Conveient

Download
Mapping
Result

Esay to use,
Simple

Slow

Modify
Mapping
result

Easy to use

Switch
mapping
mode

Conveient

Who

Do

Be

Feel

Concern
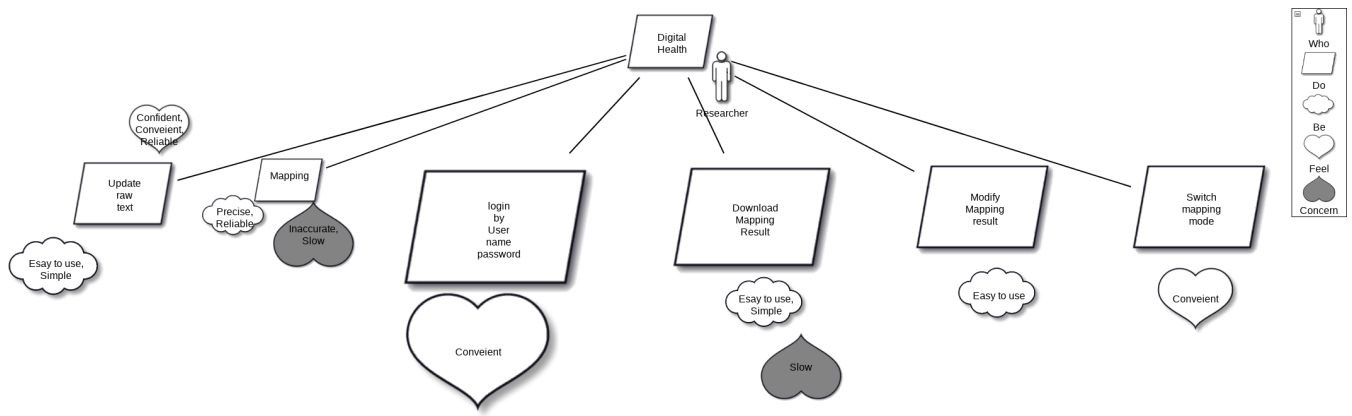
Non-Functional Requirements

Version 2

1. The system should have a fast response time to minimize delays in the research process.
   a. The mapping process needs to be efficient
2. The system should be able to handle a large volume of data with high accuracy.
   a. The system can be improved the performance over the time
3. The system should have a fast response time during mapping.

Version 1

1. Mapping system
   a. The system should have a fast response time to minimize delays in the research process.
      i. The mapping process needs to be efficient
   b. The system should be able to handle a large volume of data with high accuracy.
      i. can be improved the performance over the time
   c. The system should be available and accessible to users 24/7 with minimum downtime for maintenance or upgrades.
      i. Still can be used when the system backup itself.
   d. The system should be able to handle a large volume of data with high accuracy.
   e. The system should have a fast response time during mapping.
2. Account System
   a. The system should have a user-friendly interface for easy use.
   b. The system should be secure and protect user data from unauthorized access.
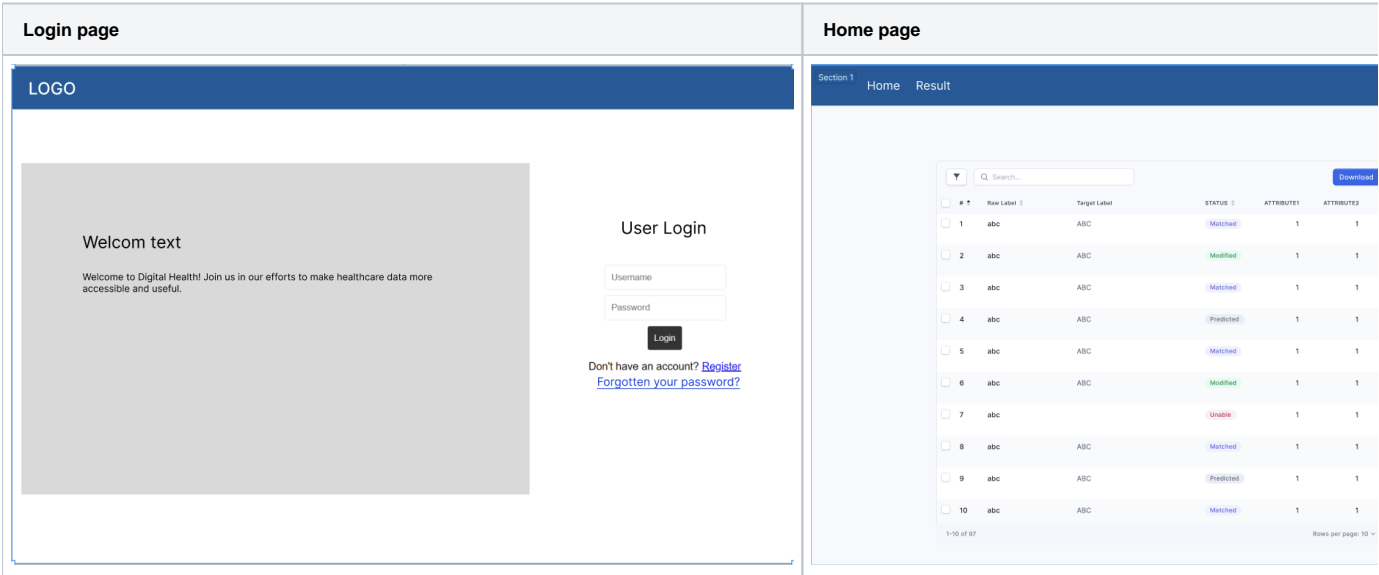   c. The database should be reliable.

Paper Prototype

V1.2:

Figma: https://www.figma.com/files/project/86115985/Team-project?fuid=1219124471300492886

what we do:

- According to customer needs, all pages related to the administrator role have been deleted.
- At the same time, the functions related to the manage account page are also deleted. The customer is very satisfied with the remaining prototype and said that it should now focus on the prototype verification of the main function mapping system

Login page	Home page

V1.1:

Figma: https://www.figma.com/files/project/86115985/Team-project?fuid=1219124471300492886

what we do:

- We used better-looking templates, and we rebuilt the entire prototype.
- We have extended the page design for each function page.
- We have made page changes according to the envisaged needs and functions.

Login page	Home page
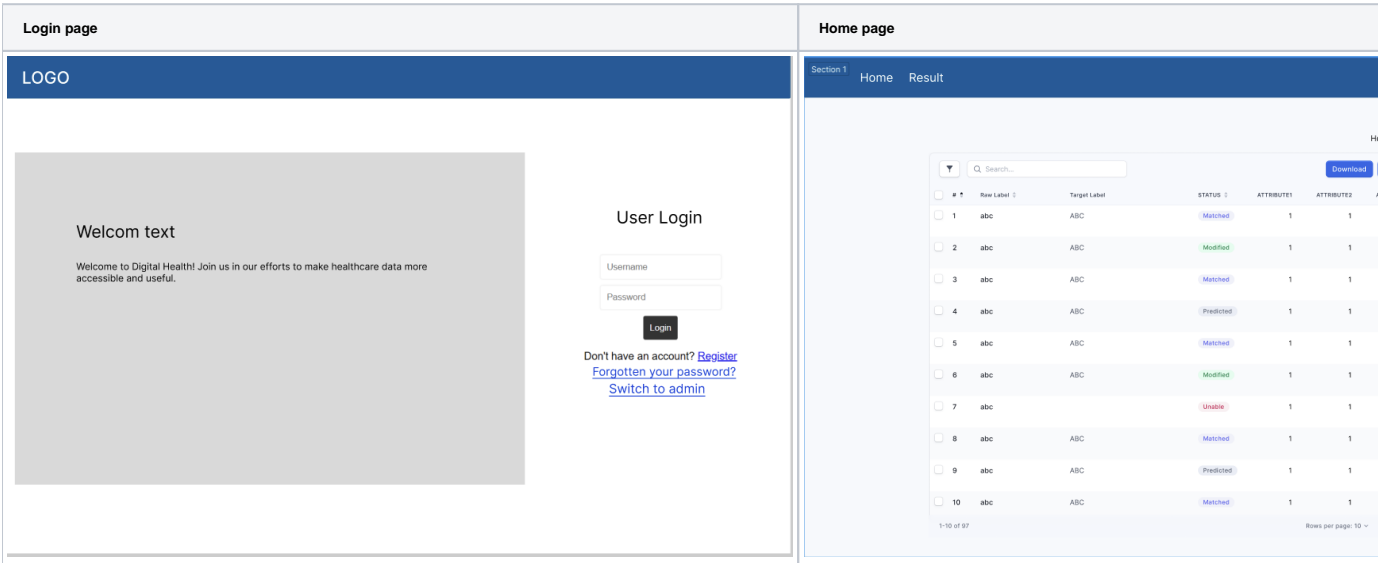
V1:

User login page:	Administrator Menu page:
Digital Health Log In Account: _Enter Your Account_ Password: _Enter Your Password_ Create Account Forget Password	Digital Health Manage Accounts Use System System History System Backup Reset System Standard List

Personas

Jessica Lee
Influencer
Medical Reseacher

- 32 years
- Melbourne, AU

Goals

- Promote Collaboration
- Address Health Disparities
- Foster Innovation

Bio

Dr. Jessica Lee, a medical researcher and social media influencer, is dedicated to improving disease diagnosis accuracy by utilizing precise data and advanced technology. Her work aims to enhance patient outcomes and promote better medical practices.

Frustrations

- Inaccurate or incomplete data leads to incorrect conclusions.
- Integrating data from different sources is difficult.
- Mapping results can be complex and difficult to interpret.

Motivations

- Public Health
- Career Advancement
- Knowledge

Channels

- Scientific Journals and conference
- Social Media
- Healthcare Organizations

> By sharing my knowledge and insights, I hope to make a positive impact on public health and improve outcomes for all.

- Introvert 60
- Extrovert 80
- Thinking 80
- Feeling 70
- Judging 90
- Perceiving 20%

John Adams

System Adminstrator

- 39 years
- Sydney, AU

Goals

- Facilitate seamless research collaboration
- Enhance system security and efficiency.
- Drive innovation through technological adoption

Bio

John Adams is a skilled System Administrator with a passion for IT and its applications in healthcare. He excels in database management and network security, aiming to drive innovation by seamlessly integrating cutting-edge technology. His dedication to staying current with industry trends fuels his enthusiasm for enhancing efficiency and user experience.

Frustrations

- Balancing system security and user accessibility is always quite hard
- Limited budget, outdated hardware, or insufficient software licenses can cause challenges in maintaining and upgrading
- Managing multiple projects and tasks simultaneously can lead to increased workload

Motivations

- Patient outcome
- Career Advancement
- Professional growth

Channels

- IT conferences and webinars
- Meetup groups and local events
- Technical blogs and websites

> To bridge the gap between cutting-edge technology and the brilliant minds working tirelessly to advance healthcare.
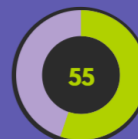
75 Introvert

50 Extrovert

85 Thinking

55 Feeling

40 Judging

70% Perceiving

User Stories

Version

Version ID	Description	Date
2.0	Following the second client meeting, we have gained a comprehensive understanding of the client's requirements. A noteworthy change that has been identified pertains to the discontinuation of the admin user.	2023-03-23
1.0	After the first client meeting. We initialise the user stories base on the meeting and analysis.	2023-03-18

V 2.0 User Story Table

StoryID	User	Story	Priority
1	Researcher	As a researcher, I want to view the list of standardized disease descriptions generated by the system so that I can review them for accuracy.	Must have
2	Researcher	As a researcher, I want to download the mapping result so that I can use the mapping result for other research.	Must have
3	Researcher	As a researcher, I want to visualize the mapping results so that I can analyze the accuracy, reliability, and security of the system.	Must have
4	Researcher	As a researcher, I want to curate mapping results so that I can help system to statistical results and improved system algorithm.	Must have
5	Researcher	As a researcher, I want to see the mapping results so that I can analyze the reliability of the system and the defects of the system algorithm through my own experience.	Must have
6	Researcher	As a researcher, I want to upload Raw data to the mapping system so that I can use the system to get the mapping results.	Must have
7	Researcher	As a researcher, I want to modify the system mode so that mapping large raw data like a pipeline.	Must have
8	Researcher	As a researcher, I want to have my own username and password so that log in to the system.	Must have

V 1.0 User Story Table

StoryID	User	Story	Priority
1	Administrator	As an Administrator, I want to create the normal user account so that I can give researcher accounts.	Could have
2	Administrator	As an Administrator, I want to delete the normal user account so that I can recycle accounts that are no longer in use.	Could have
3	Administrator	As an Administrator, I want to modify the normal user account so that I can managing account data and changing passwords.	Could have
4	Administrator	As an Administrator, I want to query the account so that I can count and analyze the entire account database	Could have
5	Administrator	As an administrator, I want to view all users' mapping results so that I can find wrong mappings.	Must have
6	Administrator	As an administrator, I want to modify all users' mapping results so that I can update mapping in the code system.	Must have
7	Administrator	As an administrator, I want to add new mapping to system so that I update the system.	Must have
8	Administrator	As an administrator, I want to ensure that all data on the system is encrypted so that it cannot be accessed by unauthorized users.	Sould have
9	Administrator	As an administrator, I want to enforce password policies so that users have strong passwords to protect their accounts.	Must have
10	Administrator	As a administrator, I want to view the list of standardized disease descriptions generated by the system so that I can review them for accuracy.	Must have
11	Researcher(Normal user account) , *Administrator	As a researcher, I want to view the list of standardized disease descriptions generated by the system so that I can review them for accuracy.	Must have
12	Researcher(Normal user account) , *Administrator	As a Researcher, I want to download the mapping result so that I can use the mapping result for other research.	Must have

13	Researcher(Normal user account) , *Administrator	As a researcher, I want to visualize the mapping results so that I can analyze the accuracy, reliability, and security of the system.	Must have
14	Researcher(Normal user account), *Administrator	As a researcher, I want to curate mapping results so that I can help system to statistical results and improved system algorithm.	Should have
15	Researcher(Normal user account) , *Administrator	As a researcher, I want to see the mapping results so that I can analyze the reliability of the system and the defects of the system algorithm through my own experience.	Must have
16	Researcher(Normal user account) , *Administrator	As a researcher, I want to upload Raw data to the mapping system so that I can use the system to get the mapping results.	Must have
17	Researcher(Normal user account), *Administrator	As a researcher, I want to modify the exiting mapping in the system so that I can update the system.	Could have

the * sign Indicates that the team currently envisages and analyzes the requirements, and needs to communicate with the customer in the customer meeting to decide whether it is needed.

We try to use the ChatGPT to get some help. This is what we got from ChatGPT:

Q:

Create user stories for the following software project: Name of project: Dighital Health Goal of project: Research can use this system to convert non-standard disease descriptions into standardized disease descriptions. Researchers are involved in modifying the evaluation results to help the system improve its algorithms Personas involved in this project: Researchers, and system administrators. The software requirements must meet following consistency criteria: - there should be at least 10 different user stories for every persona of the project - user stories should follow the template 'As a <user> I want to <do> so that <goal>' - user stories should be diverse and inclusive - group user stories into epics, if they correlate to same goal - every user story needs to relate to one of the goals of the project - there should be at least one user story for every goal of the project Organize your answer to follow the template below: [EPIC <number>: <name of goal of project>] <name of persona> <enumerated list of user stories for that goal and persona> <example of scenario that supports created user story>

A:

[EPIC 1: Convert non-standard disease descriptions to standardized disease descriptions] Researchers

1. As a researcher, I want to submit non-standard disease descriptions so that they can be converted into standardized disease descriptions.
2. As a researcher, I want to modify the standardized disease descriptions that are generated by the system so that the system can improve its algorithms.
3. As a researcher, I want to view the list of standardized disease descriptions generated by the system so that I can review them for accuracy.
4. As a researcher, I want to search for standardized disease descriptions so that I can retrieve information about a specific disease.
5. As a researcher, I want to view the statistics related to the conversion of non-standard disease descriptions to standardized disease descriptions so that I can evaluate the performance of the system.
6. As a researcher, I want to export the list of standardized disease descriptions so that I can use it for other research purposes.
7. As a researcher, I want to provide feedback to the system about the accuracy of the standardized disease descriptions so that the system can improve its algorithms.
8. As a researcher, I want to collaborate with other researchers on the evaluation of the standardized disease descriptions.

Example Scenario: A researcher submits a non-standard disease description, and the system converts it into a standardized disease description. The researcher modifies the standardized disease description to improve its accuracy, and the system uses this information to improve its algorithms. The researcher views the statistics related to the conversion of non-standard disease descriptions to standardized disease descriptions and exports the list of standardized disease descriptions to use it for other research purposes.

[EPIC 2: Manage the system] System Administrator

1. As a system administrator, I want to add new users to the system so that they can access the system.
2. As a system administrator, I want to delete users from the system so that they no longer have access to the system.
3. As a system administrator, I want to modify user roles so that users have appropriate access to the system.
4. As a system administrator, I want to view system logs so that I can monitor system activity.
5. As a system administrator, I want to update the system software to ensure that it is secure and up-to-date.
6. As a system administrator, I want to create backups of the system data so that it can be restored in case of data loss.
7. As a system administrator, I want to view system usage statistics so that I can optimize system performance.
8. As a system administrator, I want to configure system settings to ensure that the system is optimized for research purposes.

Example Scenario: A system administrator adds a new researcher to the system and modifies their role to give them appropriate access. The system administrator views the system logs to monitor system activity and updates the system software to ensure that it is secure and up-to-date. The system administrator creates backups of the system data to ensure that it can be restored in case of data loss and views system usage statistics to optimize system performance. The system administrator configures system settings to ensure that the system is optimized for research purposes.

✅❌

Meetings

Incomplete tasks from meetings

Description	Due date	Assignee	Task appears on
☐ Investigate alternative solutions to OntoServer, and keep the client updated on any progress or changes.			23/03/2023 Client Meeting
☐ Follow up with the client regarding the UIL(No elements) problem and determine the next steps to address it.			23/03/2023 Client Meeting
☐ Inform stakeholders of the importance of obtaining the license and the full list.			17/03/2023 Meeting notes

Meeting categories

Client Meetings	Supervised Team Meetings	Team Meetings

All meeting notes

Title	Creator	Modified
17/03/2023 Team Meeting	Runzhe HUA	9 minutes ago
15/03/2023 Team Meeting	Runzhe HUA	10 minutes ago
13/03/2023 Team Meeting	Runzhe HUA	10 minutes ago
17/03/2023 Meeting notes	Runzhe HUA	10 minutes ago
09/03/2023 Meeting notes	Runzhe HUA	10 minutes ago
23/03/2023 Client Meeting	Jiacheng WANG	11 minutes ago
10/03/2023 Client Meeting	Runzhe HUA	11 minutes ago

Client Meetings

- 10/03/2023 Client Meeting
- 23/03/2023 Client Meeting

10/03/2023 Client Meeting

Date

10 Mar 2023

Attendees

- Daniel Capurro
- Vlada Rozova
- Runzhe HUA
- Lang Cao
- Yanxi KE
- Jiacheng WANG
- Mingjun GAO

Goals

- Get to know the client
- Know the information can be provided by clients
- Understand what the client needs

Discussion items

Item	Notes
Introduction by Daniel Capurro	- Presentation by Daniel Capurro introduces his pattern and other clients - Expects to achieve - Show the working process for the current project - Show and provide the raw plaintext
Introduction by Vlada Rozova	- Introduction by herself - Some additional information provided - Mentioned she will be our contact in the future - Mapping accuracy needs to be increased over time.
Ask for requirements	- This is a web-based project - The computing algorithm needs to be updated by modifying the mapping result - OntoServer account with the license will be given by the university. - the Universal Indication List will be given in the future - We ask for technical details of what needs to be implemented

Action items

- ☑ Research whether the data given by the customer can be matched using Ontoserver.

23/03/2023 Client Meeting

Date

23 Mar 2023

Attendees

- Dr Vlada Rozova (client)
- Dr Mike Conway (client)
- Runzhe HUA
- Lang Cao
- Yanxi KE
- Jiacheng WANG
- Mingjun GAO

Goals

- Review and clarify the client's requirements for the project interface.
- Inform the clients of the technical problems we encounter when conducting medical information retrieval
- Confirm our user stories with clients
- Understand and confirm high-priority requirements from clients
- Confirm the weekly meeting

Discussion items

Item	Notes
Discussing the desired functionality, design, and user experience for the interface.	- Presented and discussed our current prototype with clients. - The client reiterated their requirements and again elaborated on the system's two modes.
Problems have encountered	- Clients suggest finding alternative solutions if OntoServer is still unavailable. - We discussed downloading SNOMED CT directly but decided against it due to difficulties in parsing it. - Clients will take a look at the UIL(No elements) problem
Confirm and update user stories	- The client advised that since only a few researchers will use this system, the admin is no longer needed. - The client pointed out that using OntoServer is not mandatory, and if there is an alternative, it can be used.

Action items

- [ ] Investigate alternative solutions to OntoServer, and keep the client updated on any progress or changes.

- [ ] Follow up with the client regarding the UIL(No elements) problem and determine the next steps to address it.

- [x] Update the user stories based on the feedback from the client, and remove the admin feature from the system.

Supervisor Meetings

- 09/03/2023 Meeting notes
- 17/03/2023 Meeting notes

09/03/2023 Meeting notes

Date

09 Mar 2023

Attendees

- Mauro Mello Jr
- Yanxi KE
- Jiacheng WANG
- Runzhe HUA
- Mingjun GAO
- Lang Cao

Goals

- The first meeting with the supervisor. He introduced us to this project and the clients.

Discussion items

Item	Notes
Self-introduction of Mauro Mello Jr	His previous experience and current work
Aim of the project	Developing Knowledge, skills, and expertise
Some technical points	The PDCA Cycle, Testing, Learning, Professionalism matters, etc.
About clients and the project	- Information about clients and Email of them are provided - Mentioned the template has to be used to contact clients - All the requirements will come from clients - Must have first meeting with clients and then ask future questions

Action items

- ☑ Contact the customer as soon as possible for more information about the project.

17/03/2023 Meeting notes

Date

17 Mar 2023

Attendees

- @Mauro Mello Jr
- @Yanxi KE
- @Jiacheng WANG
- @Runzhe HUA
- @Mingjun GAO
- @Lang Cao

Goals

- Communicate with the supervisor about our current progress and receive some advice from him.

Discussion items

Item	Notes
External dependency	- We still not get the license. - The Universal Indication List is still not to get. - Other alternatives to consider while waiting for these.
Confluence	- The supervisor emphasized the importance of documenting all documents in Confluence. - Done what can be done currently. - Setting a deadline for the license
Communication	- Better to have in-person conversations - Planning has the next meeting in person. - Asking may have other solutions

Action items

- ☐ Inform stakeholders of the importance of obtaining the license and the full list.
- ☑ Schedule another meeting with the client

Teams Meetings

- 13/03/2023 Team Meeting
- 15/03/2023 Team Meeting
- 17/03/2023 Team Meeting
- 22/03/2023 Team meeting

13/03/2023 Team Meeting

Date

13 Mar 2023

Attendees

- Mingjun GAO
- Lang Cao
- Yanxi KE
- Runzhe HUA
- Jiacheng WANG

Goals

- To discuss the roles in our team.
- To allocate the tasks.

Discussion items

Time	Item
30 mins	- Introduction and know each other - Collect and understand the requirement of the client - Share the understanding of the project - Know the coding ability of each other - Have an overall understanding of the project - Collect and share the information we have

Question to Clients

- Can we have a sample for raw plaintext
- An account with the license will be provided or not.
- Mapping accuracy requires or not.

Action items

- ☑ Research ontoserver API
- ☑ Contacting customers for more information and support

15/03/2023 Team Meeting

Date

15 Mar 2023

Attendees

- Lang Cao
- Yanxi KE
- Jiacheng WANG
- Mingjun GAO
- Runzhe HUA

Discussion items

User story

- Collect user requirements together
- Analysis client requirement
- Divide the requirement into three main parts
- Making the initial user story by these parts
- Assign an equal task to each user story
- Record the user story by the user story template

Mapping system

- The mapping system has two methods based on the current situation
- Ontoserver license application started.

Action items

- [x] Write effective user stories.
- [x] Appy Ontoserver account

17/03/2023 Team Meeting

Date

17 Mar 2023

Attendees

- Lang Cao
- Yanxi KE
- Jiacheng WANG
- Mingjun GAO
- Runzhe HUA

Goals

- Regular progress updates and planning

Discussion items

Item	Notes
Discussed the Sprint 1 Assessment Checklist.	• Discuss the difficult and important parts of the sprint one checklist • Confirm the requirement on the current stage • Share the understanding of software development • Assign tasks to individuals.
The website design prototype	• Discuss how many pages are needed on this website • Discuss the function on each page • Discussed the design for the front-end pages needed for the current stage.
Mapping System	• Updating the current situation on the mapping system • Ontoserver license still is not available in the current stage • the Universal Indication List still be prepared.
Main decision	• Decide to do the website first

Action items

- ☑ Runzhe HUA is responsible for organizing the meeting minutes and the design of the website's index.
- ☑ Lang Cao needs to write the background description, client goals, and motivation sections. At the same time, he is also responsible for designing the pages for normal users.
- ☑ Jiacheng WANG needs to write personas and design the interface for moderator information.
- ☑ Yanxi KE is responsible for to analysis of requirements and design admin page.
- ☑ Mingjun GAO is responsible for developing a plan for Sprints 2 and 3, including requirements, technologies, and infrastructure, with estimated and prioritized backlog items available.

22/03/2023 Team meeting

Date

22 Mar 2023

Attendees

- Lang Cao
- Yanxi KE
- Jiacheng WANG
- Mingjun GAO
- Runzhe HUA

Goals

- Regular progress updates and planning

Discussion items

Item	Notes
Go through the checklist for spring 1	- Discuss Each Question on the checklist - Check if there is missing or not
The website design prototype	Discuss how to the implementation of the webpage
Prepare Questions for client meeting	Prepare Question so that need to discuss in the meeting with Clients

Prepare Question

1. OntoServer still cannot use
2. UIL is empty
3. There are two parts to this project

1. Account system
   a. doctors, researchers, and admin
   a. Modify mapping result?
   a. Login, register, and change information(name, phone number),
   b. who will be the users?
   c. Does the admin need to update UIL?
   d. Does the admin need to see each mapping?
   e. if there are multiple mapping systems, should the admin can back up the weight as a setting checkpoint?
2. Mapping system
   a. confirmation, unsure, cannot
   a. Based on the Score
   b. Could you provide the list already be mapped
3. Do not use Ontoserver and build the web in docker.
4. Discuss meeting time.

Development

This page houses documentation related to the development aspect of Digital Health.

- Technical Details
- User Guide

Technical Details

Frontend

Bootstrap Vue React

Backend

ExpressJS

PostgreSQL

API

Ontoserver

Plan

- Requirements Plan
- Technology Pan
- Deployment Plan

Requirements Plan

Document Status	Version	Date	Comment
DONE	2.0	23 Mar 2023	Modifying requirements according to the results of the client meeting #2.
DONE	1.1	21 Mar 2023	Requirements plan
DONE	1.0	19 Mar 2023	Requirements plan (Requirements draft

V2.0

Sprint2

1. The system should be able to convert non-standard disease descriptions into standardized disease descriptions(allow download results). And they want to see the results(each data) of the mapping.
    a. The raw plaintext or data including unnecessary text or incomplete names needs to be mapped to the database as much close as it can.
    b. There are two main parts of the mapping system
        i. Mapping raw plaintext to SNOMED ST
        ii. Finding the SNOMED ST is not the Universal Indication List or not.
2. The system should allow researchers to modify the results to help the system improve its algorithms.
    a. After the user maps their result, they can see them in the table and then change to the correct one if there is an error in it.
    b. This behavior needs to be recorded in the database
    c. Each time user modifies the result, it will be saved to the database, and then if the raw text appears again, it will be mapped by the new result.
3. The system can be switched to pipeline mode
    a. Once the mapping system is reliable, the user may have a large number of raw plaintext, the user only needs to upload and then download it as quickly as possible.

Sprint3

1. The system should allow researchers to export the results into a file for further analysis.
    a. The CSV files can be downloaded
2. The system should visualize the accuracy of the mapping situation.
    a. Showing the part of data that cannot be mapped or is not sure to be mapped and how many of them can be confirmed for mapping.
3. The system should have a fast response time to minimize delays in the research process.
    a. The mapping process needs to be efficient
4. The system should be able to handle a large volume of data with high accuracy.
    a. The system can be improved the performance over the time
5. The system should have a fast response time during mapping.

V1.1

Sprint2

1. Mapping System
    a. The system should be able to convert non-standard disease descriptions into standardized disease descriptions(allow download results). And they want to see the results(each data) of the mapping.
        i. The raw plaintext or data including unnecessary text or incomplete names needs to be mapped to the database as much close as it can.
    b. The system can provide a database of standardized disease descriptions that researchers can access.
        i. the Universal Indication List will be provided by clients.
    c. The system should allow researchers to modify the results to help the system improve its algorithms.
        i. after the user maps their result, they can see them in the table and then change to the correct one if there is an error in it.
        ii. This behaviour needs to be recorded in the database
    d. The system should be available and accessible to users 24/7 with minimum downtime for maintenance or upgrades.
        i. Still can be used when the system backup itself.
    e. The system should be able to handle a large volume of data with high accuracy.
    f. The system should have a fast response time during mapping.
2. Account system
    a. Password is sent by Email to create a new account or reset the password.
    b. The system should encrypt all users' information data.
        i. Having a random individual ID for each user.
    c. ~~The system should allow administrators to manage research and modify information (create, modify, query, delete).~~
    d. ~~The system should allow the administrator to back up information and algorithms.~~
        i. ~~only save the key weight~~

Sprint3

1. Mapping system
    a. The system should have a fast response time to minimize delays in the research process.
        i. The mapping process needs to be efficient
    b. The system should be able to handle a large volume of data with high accuracy.
        i. can be improved the performance over the time
    c. The system should allow researchers to export the results into a file for further analysis.
        i. The CSV files can be downloaded
    d. The system should visualize the accuracy of the mapping situation.
        i. Showing the part of data that cannot be mapped or is not sure to be mapped and how many of them can be confirmed for mapping.
    e. The mapping algorithm can be upgraded by users modified or manually.
        i. each time user modifies the result, it will be saved to the database, and then if the raw text appears again, it will be mapped by the new result.
        ii. It may have multiple mapping algorithms in systems, but they may not be efficient over time. It weight in each algorithm needed to be upgraded.
2. Account System
    a. The system should have a user-friendly interface for easy use.
    b. The system should be secure and protect user data from unauthorized access.
    c. The database should be reliable.

V1.0

Sprint2

1. The system should be able to convert non-standard disease descriptions into standardized disease descriptions.
2. The system should provide a database of standardized disease descriptions that researchers can access.
3. The system should allow administrators to manage account information.
4. The system should encrypt all data.
5. The system should run the administrator application password policy to increase account security

Sprint3

1. The system should allow the administrator to back up information and manage algorithms.
2. The system should allow researchers to modify the evaluation results to help the system improve its algorithms.
3. The system should allow researchers to export the results into a file for further analysis.
4. The system should be able to display, and output, a list of standardized disease descriptions.
5. The system should visualize the accuracy of the system to allow researchers to decide whether to use the system

Deployment Plan

Document Status	Version	Date	Comment
DONE	1.0	19 Mar 2023	Adding ontoserver deployment.

Deployment of front-end

Deployment of back-end

Deployment of ontoserver

Log in to quay.io with:

docker login quay.io

Minimal Configuration

- Create a text file called docker-compose.yml with the following contents (or download ./docker-compose.yml).
- If deploying in Australia, details on configuring NCTS_CLIENT_ID and NCTS_CLIENT_SECRET can be found here.

  Otherwise, you only need to include this configuration if you have a secured upstream syndication service. In this case, the process for obtaining credentials will be specific to your syndication provider.
- You will almost certainly want to set the JVM maximum heap via `JAVA_OPTS=-Xmx` as per below, as the defaults can be unreliable.
- NOTE: By default, Ontoserver will run using SSL/TLS (i.e. https://). To disable SSL/TLS, add `- ONTOSERVER_INSECURE=true` to the `environment` section of the `ontoserver` container in the `docker-compose.yml` file.

```yaml
version: '3'
volumes:
  onto:
    driver: local
  pgdata:
    driver: local
services:
  db:
    image: postgres:12
    volumes:
      - pgdata:/var/lib/postgresql/data
    healthcheck:
      test: ["CMD-SHELL", "pg_isready -U postgres"]
      interval: 10s
      timeout: 5s
      retries: 5
    environment:
      - POSTGRES_HOST_AUTH_METHOD=trust
  ontoserver:
    image: quay.io/aehrc/ontoserver:ctsa-6
    container_name: ontoserver
    read_only: true
    security_opt:
      - no-new-privileges
    depends_on:
      - db
    ports:
      - "8443:8443"
      - "8080:8080"
    environment:
      - spring.datasource.url=jdbc:postgresql://db/postgres
# These two lines are specific to deployment in Australia only
      - authentication.oauth.endpoint.client_id.0=NCTS_CLIENT_ID
      - authentication.oauth.endpoint.client_secret.0=NCTS_CLIENT_SECRET
      - JAVA_OPTS=-Xmx2G          # Minimum
#       - JAVA_OPTS=-Xmx8G        # Preferred
    volumes:
      - onto:/var/onto
      - /tmp
      - /var/log
```

Running Ontoserver

- Starting

docker-compose up -d

- Stopping

docker-compose stop

- Download the latest SNOMED CT-AU version

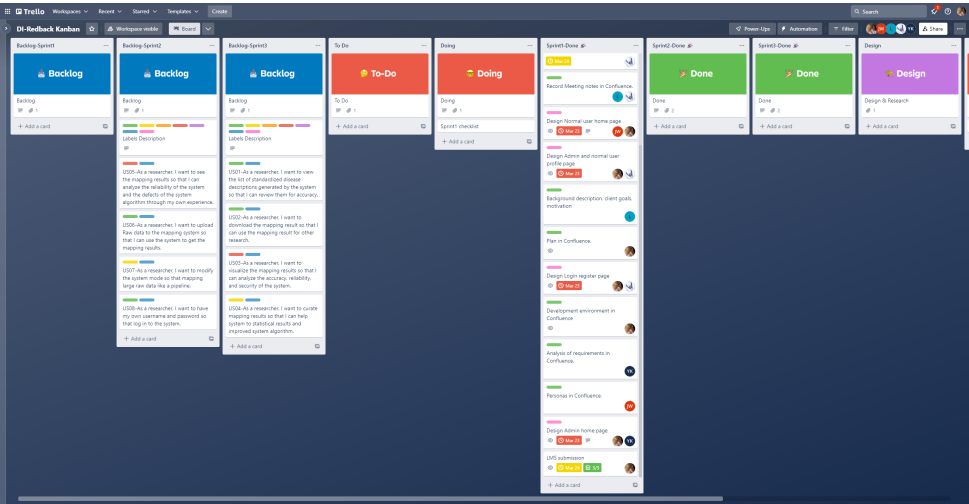docker exec ontoserver /index.sh

- Download a specific SNOMED CT-AU version
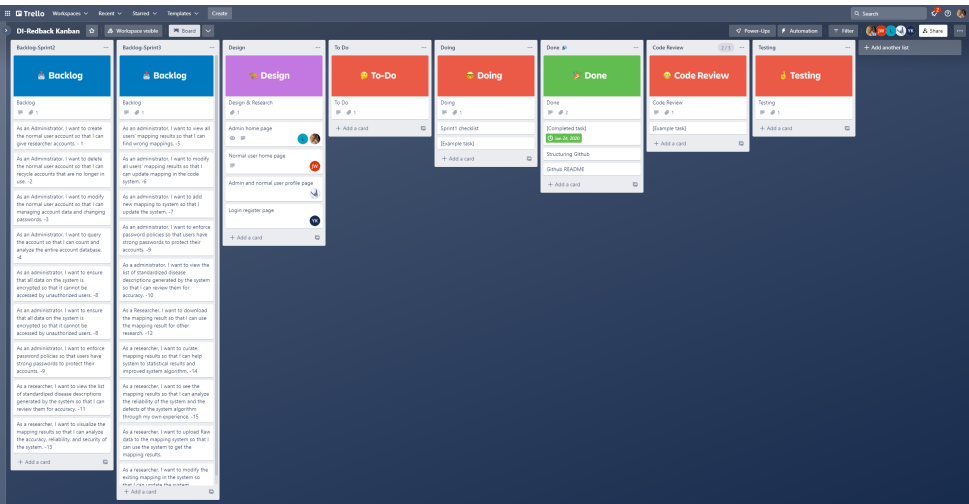
```
docker exec ontoserver /index.sh -v 20191231
```

Kanban in Trello

Status	Version	Date	Comment
DONE	1.1	23 Mar 2023	Adding labels for size and type of backlogs. Dividing "done list" into three sprints.
DONE	1.0	21 Mar 2023	Kanban draft

V1.1

V1.0

Technology Plan

Document Status	Version	Date	Comment
DONE	1.0	19 Mar 2023	

	Sprint2	Sprint3
API	ontoserver	ontoserver
Front-End	HTML CSS Javascript Vue React	HTML CSS Javascript Vue React
Back-End	ExpressJS	ExpressJS
DB	PostgreSQL	PostgreSQL
VM	docker	docker