

MED-X AI

Thorax Disease Detector

BY: Med-X (Team 1)
CS691
March 2024



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Team Roles and Responsibilities



Ronaldo Simbaña
Scrum Master | Developer



Marla Capistran
Team Leader | Database Admin



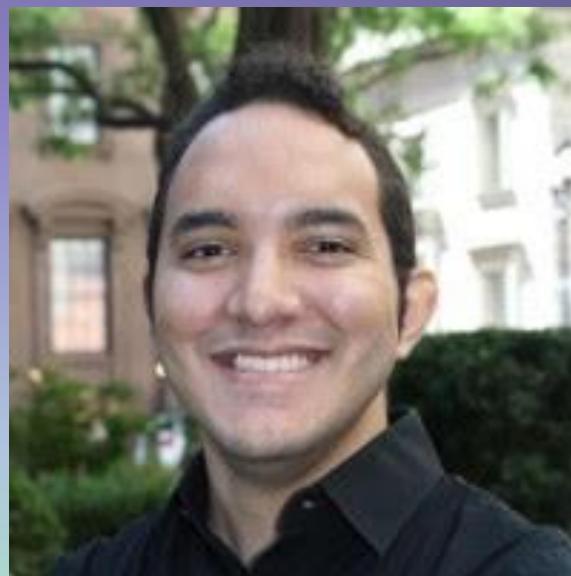
Filippo Zallococo
Developer



Team Roles and Responsibilities



Christopher Ospina
Developer



Anthony Muñoz
*Quality Assurance / Tester
Developer*



Leanna Machado
Developer



Team Roles and Responsibilities



Rahul Nayangali
Developer



Prithvi Raimangya
Designer | Developer



Improvements

- Team Roles and Responsibilities were updated to reflect Developer roles as well (slides 9-11)
- Project Description Page Added (slide 15)
- Changed Product Design Journey to Product Discovery (slide 21)
- Simplified MVP Design (slides 23,24)
- Technologies and Algorithms explanation Added (slide 30-32)

Star indicates an improvement made





Problem Statement

Currently, x-ray machines are widely available; however, clinical chest x-ray images can be challenging to read and diagnose. Furthermore, x-rays are not a priority for radiologists, as they tend to focus more on CT images and MRIs. CT scans are both harmful and expensive, in addition to being time consuming.



Project Description

- A web app that has a highly trained deep learning model that classifies x-ray images, reducing the need for a radiologist to examine them
- Intended for medical professionals and patients who upload x-ray chest images
- Uses a deep-neural network models that will detect common health issues
- Our application will reduce the time it takes for a patient to receive their diagnosis using AI



MED-X AI

Project Description

Product Description	
Project Name:	Med-X AI
Team:	Med-X
Project Description:	<p>The Common Thorax Disease Detector is a web app that has a highly trained deep-learning model that classifies X-ray images, reducing the need for a radiologist to examine them.</p> <p>For medical professionals and patients who upload x-ray chest images the Med-XAI app is an application that uses a deep neural network model that will detect common chest health issues rather than having to wait for a radiologist to examine X-ray images that are not a priority for them our application will reduce the time it takes for a patient to receive their diagnosis by using AI</p>
Benefit Outcomes:	
	<ul style="list-style-type: none">• Faster physician response rate to patients.• Cost-effective solution by reducing the need to hire more professionals.• Utilize AI to reduce human errors and efforts.• Partially automating the chest x-ray review process.• More accessibility to the patients.• Improve physician workflow.
Github Link:	https://github.com/htmw/2024S-Med-X





Team Working Agreement

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Team Working Agreement

To ensure the smooth and successful completion of the Computer Science Capstone Project, the Med-X team must comply with the following expectations. As a team, we will commit to being transparent and accountable with our project responsibilities, be honest and straightforward when it comes to project plans, timeline, and progress, be proactive in trying to foresee and avoid difficulties, take initiative in tasks where a member's skills are capable, prioritize the overall success of the project, and follow through to the end.

Terms of Agreement:

Communication

The team will communicate with each other through various methods. For weekly meetings for meaningful team discussions, zoom meetings will be used. All team members are encouraged to keep their cameras on in order to build trust between the team and reflect transparency.

Comments, questions, quick discussion, and emergencies are to be communicated through a Whatsapp messenger group chat.

To share the final deliverables, share resources, and take notes, Google Docs will be used where all the team members can edit the document. Files and other resources that are not suitable to be posted on Google Docs will be uploaded on OneDrive. This includes recordings of weekly team meetings, Microsoft Word documents and PowerPoints.

A platform called ClickUp will be used to keep track of tasks, assignment due dates, and scheduled meetings. Members are assigned to tasks, where the status can be changed to show progress and viewed as a timeline. This platform assists in project management efficiency.

In all discussions within the team, members are expected to actively listen, remain focused on the topic at hand, and utilize visuals to help with the conversation.

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Work Division and Participation

The entire project work should be divided into equal parts, and equal responsibilities should be given to all the team members. Members are expected to select and contribute to tasks in which their skills are best fit.

Each team member should complete their division of work before the class deadline and by the team's scheduled date. If work is unable to be completed on time, that hinders the performance of the entire team. In any case a team member is facing difficulty or issues with completing tasks, they are expected to share it with the team so that they can help each other and complete the work before the deadline.

All the team members are expected to attend the scheduled meetings promptly. All members should show respect, share feedback and suggestions, and share skills and knowledge that would assist in the progress of the project.

Absence during multiple meetings will affect the team's performance and efficiency. The team member can discuss beforehand with the team if he/she is going to miss the meeting. Meetings will be recorded, therefore members who miss a meeting are expected to watch the recording.

Work is divided between members of the group voluntarily. However, if members lack participation, the team leader is permitted to assign necessary tasks to absentee members.

Meetings

All the team members will meet on zoom virtually every week. Meetings will occur 3 times a week on Mondays, Wednesdays, and Fridays at 5 pm. Exact dates and times are verified in the previous meeting. This ensures flexibility to accommodate everyone's schedules and a greater likelihood that all members can attend. All the team members must be present, unless for exceptional cases that are communicated to the team.

The team leader would be responsible for initiating and monitoring project tasks and assignments. The scrum master is expected to lead and monitor sprints and daily scrums.



Team Working Agreement

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The status of tasks and meeting notes on ClickUp will be added and updated after every meeting to keep track of the project and its progress.

Every team member is expected to come up with ideas, participate in the discussion, and give an update on their progress for their part of the work.

In case a member is absent during a meeting, that member pledges to support whichever decision is approved during that meeting. They are also expected to watch the recording of the meeting and ask any questions to clarify what they have missed.

Respect

It is essential that all members have a chance to share their opinion and make any suggestions without judgment. The project is a team effort where all members work together, taking advantage of our collective knowledge to come up with solutions and confront problems that may arise. Data will be used to inform our decisions whenever possible.

All members agree to respect each other's personal schedules and listen to each other's perspectives with an open mind.

Team Member	Email
Marla Capistran	mc08144p@pace.edu
Leanna Machado	lm77202p@pace.edu
Anthony Munoz	am15943n@pace.edu
Rahul Nayanegeali	rn06857n@pace.edu
Christopher Ospina	co05453n@pace.edu
Prithvi Raimangya	pr21243n@pace.edu
Ronaldo Simbana	rs77853p@pace.edu
Filippo Zalocco	fz46756n@pace.edu

Patient Persona

Harold Castillo



Age: 55

Gender: Male

Occupation: Restaurant Owner

Location: Red Bank, NJ

Harold gets regular check-ups for a man his age but has trouble scheduling due to his job. It'd be great if he could just view his results and get an idea of what they mean and potential next steps without having to keep going in person.

Goals

- View reports/results online
- Able to connect with doctor about results online
- Simple site for ease of use

Challenges

- Making it to follow-ups for results
- Understanding the results, even after a consultation
- Time taken to receive results

Radiologist Persona

Sandro Cuccigno



Age: 50

Gender: Male

Occupation: Radiologist

Location: Manhattan, NY

Hospital: NYU Langone Medical Center

Has been in the practice for 20 years. His team is understaffed and under equipped. Is often exhausted from reviewing x-rays and informing people they have a serious illness.

Goals

- Process chest images fast
- Help hospital tend to patients
- Improve workflow for his team

Challenges

- Increasing patient volumes
- Burnout from long shift and nature of the job
- Facility cutting funds
- Spends many hours reviewing x-rays

Doctor Persona

Dr. Bryce Ruiz



Age: 34

Gender: Male

Occupation: Doctor

Location: Fresno, Ca

Hospital: Albuquerque Medical Center

A 34-year-old medical professional from Fresno. Has been working at Albuquerque for over 10 years and has recently been promoted to Cardiology to conduct x-rays

Goals

- Build a strong reputation with patients
- Explain to patients what they have in a clear manner

Challenges

- Large volume of patients
- Limited time for consultations
- Patients are often confused about their diagnosis



Product Discovery

The image displays four screenshots of the Med-X AI application interface:

- Screenshot 1:** A landing page with a placeholder image of a person, a 'Status Bar' with a progress bar, an 'UPLOAD XRAY HERE' button, and a 'SUBMIT' button. Below is a 'FINDINGS' section showing 'Diagnosis: Pneumonia', 'Area of Interest: Chest', and a 'Stage 1' definition.
- Screenshot 2:** A user profile for 'John' with a message from 'JD': 'Good morning John!'. It includes a file upload area ('Drag files to upload or Browse Files'), a diagnosis of 'Pneumonia', a detailed description of the condition, and a 'Doctor's Message' with a timestamp and instructions.
- Screenshot 3:** A process flow titled 'Med X AI' showing the status of an X-ray image: 'In Progress', 'Under Review', and 'Reviewed'. It includes sections for 'Result' (Thorax Disease), 'Description' (Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.), and 'Doctor's Notes'.
- Screenshot 4:** A 'Dashboard' view with a teal header showing 'Med-X' and 'Dashboard'. It includes filters for 'Date Range' ('This Month'), 'Type of Scan' ('MRI'), and 'Filter View' ('Line Chart'). A large central area is placeholder for scan images, with a 'Upload a new Scan' button at the bottom.
- Screenshot 5:** An 'X-ray Overview' page for a specific patient. It shows 'Patients Information' (Age, ID), an 'Upload X-ray image' button, 'X-ray Findings' (Last checked 2 Days Ago, Inverted Trachea Body Shape), and a 'Doctors Opinion' section.

A large yellow star is positioned in the bottom right corner of the collage.



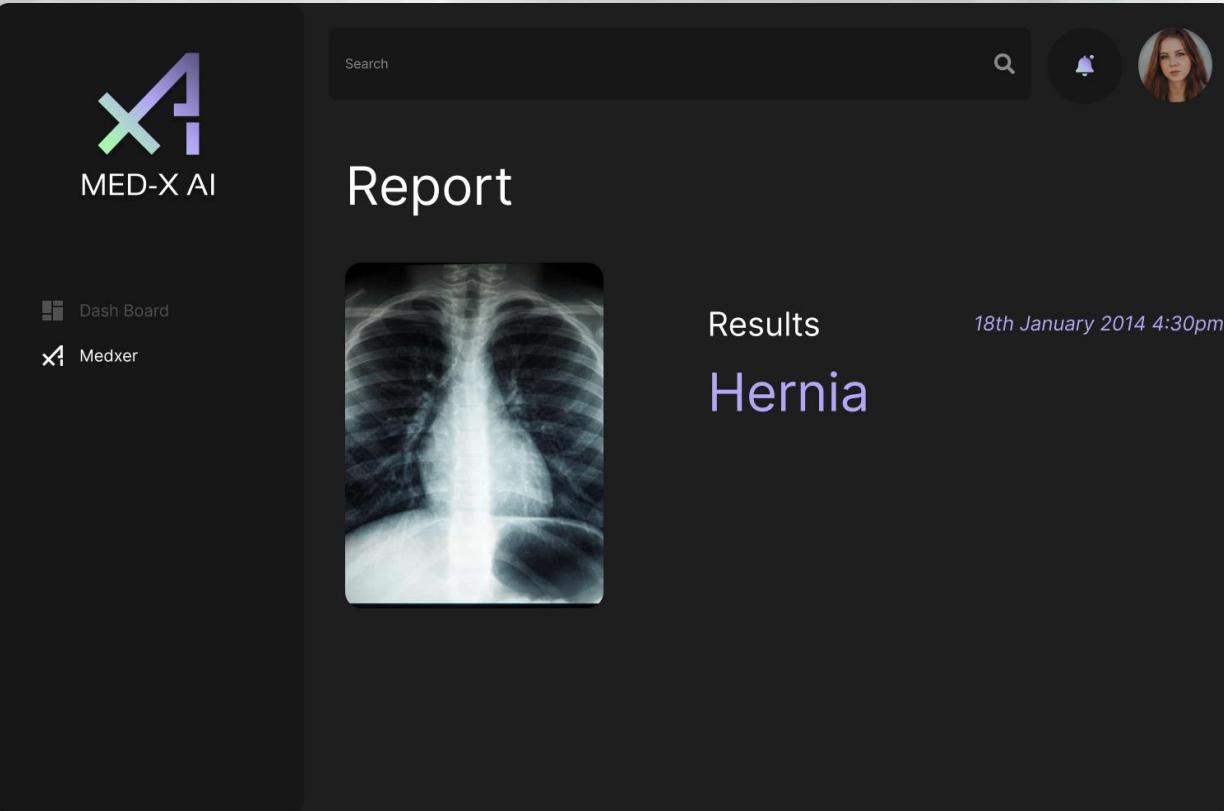
Final Product Design

A smartphone is shown from a slightly elevated angle, displaying the Medexer mobile application. The screen has a dark background with a light-colored header bar. At the top left is the MED-X AI logo. To its right is a search bar with a magnifying glass icon and a user profile picture of a woman. Below the header, the word "Medexer" is displayed in large white letters, followed by "X-ray ID: #234456". A horizontal progress bar with a gradient from purple to green spans across the middle of the screen, with the word "Reviewed" in white text on the green portion. To the right of the progress bar is a small info icon. On the far left, a vertical navigation menu lists: Dash Board, Medexer, Reports, Connect, Settings, About Us, and Terms & Conditions, each with a circular icon next to it. In the center of the screen is a chest X-ray image showing the lungs and heart area. To the right of the image, the word "Results" is at the top, followed by the word "Hernia" in large blue letters. Below "Hernia", a detailed description reads: "Descriptions: Identification of a diaphragmatic hernia noted on the chest X-ray. The presence of abdominal contents protruding through the diaphragm into the thoracic cavity is observed. This herniation appears to be located hemidiaphragm. Clinical correlation and further imaging modalities may be warranted for comprehensive evaluation and management." To the right of this text is a timestamp "03/31/2024 4:30 pm". Below the description, under "Doctors Comments:", is a placeholder text "Horem ipsum dolor sit amet. consectetur adipiscina elit." To the right of this is another timestamp "03/31/2024 4:30 pm". At the bottom of the screen are two buttons: "Download Report" in a purple bar and "Upload New Scan" in a white bar.

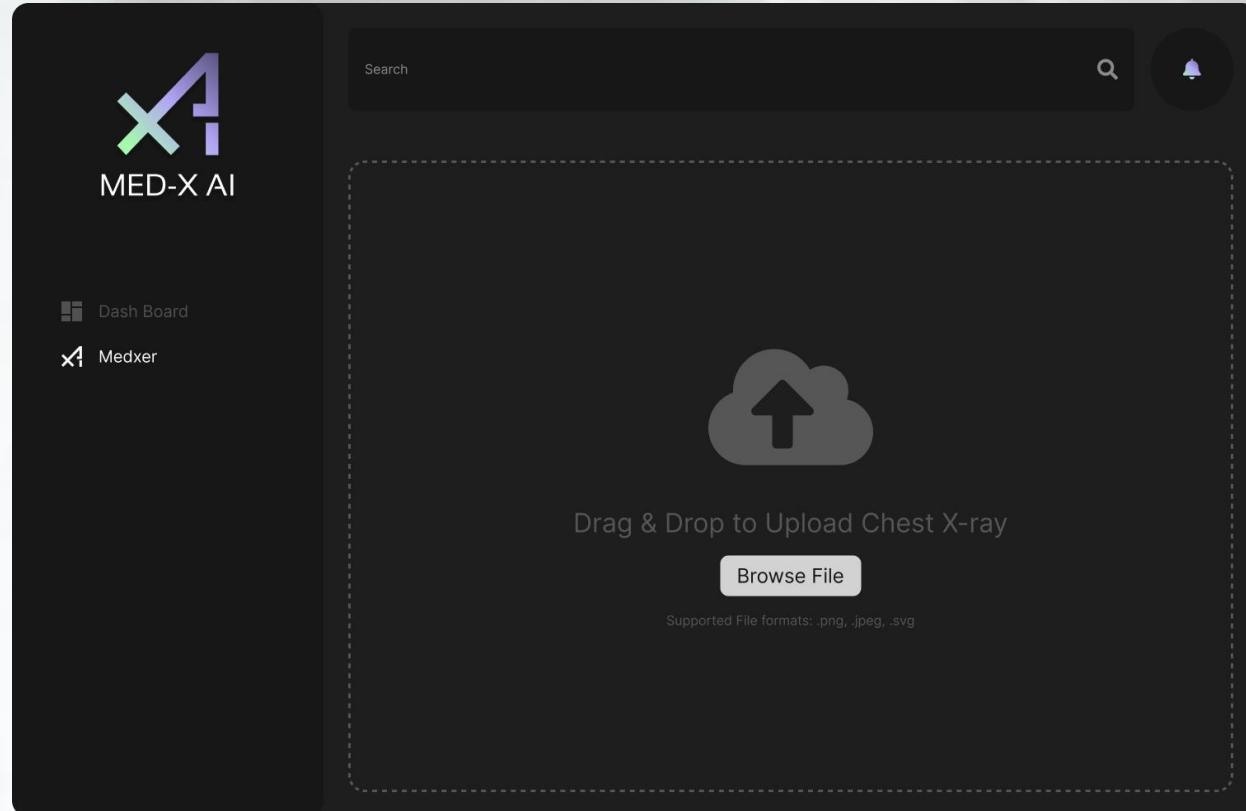


MED-X AI

MVP Design



A screenshot of the MED-X AI report page. The top navigation bar includes a search bar, a notification bell icon, and a user profile picture. The main content area is titled "Report" and features a large thumbnail of a chest X-ray image. To the right of the image, the word "Results" is displayed above the diagnosis "Hernia". A timestamp "18th January 2014 4:30pm" is shown below the results. The left sidebar contains navigation links for "Dash Board" and "Medxer".



A screenshot of the MED-X AI upload page. The top navigation bar includes a search bar, a notification bell icon, and the MED-X AI logo. The main content area features a dashed rectangular input field with a cloud icon containing an upward arrow, labeled "Drag & Drop to Upload Chest X-ray". Below this is a "Browse File" button and a note about supported file formats: ".png, .jpeg, .svg".





Technologies & Algorithms

Programming Languages and Frameworks



HTML5



CSS



JavaScript



React



Node.js



Flask



Python



Tailwind
CSS

Algorithms



TensorFlow



CNN



Keras

Database



Firebase



Figma



VSCode



Docker



GitHub



Insomnia



Technologies Explanation



HTML5



CSS



JavaScript



React



NodeJS



Tailwind
CSS

MedX app leverages HTML, CSS, JavaScript, React, Node and Tailwind CSS for the dynamic user interface



Flask



Python



Firebase

Python's micro framework Flask is used to render the chest x-ray findings on the user interface by calling the trained model

Firebase is used to store the uploaded image and provides an endpoint URL to call the API





Technologies Explanation



Figma



VSCode



Insomnia



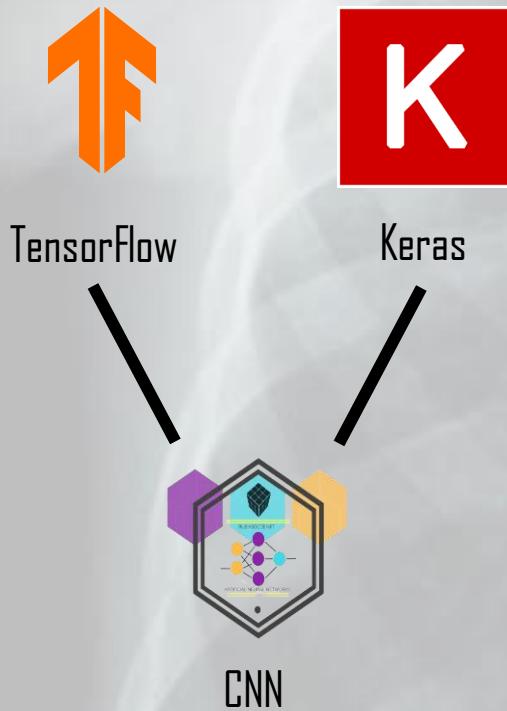
Docker



GitHub

Figma, VSCode, and GitHub are tools used for efficient collaboration. Figma enables a seamless contribution for the overall development. VSCode is the chosen code editor. GitHub allows remote version control and collaborative development. Docker simplifies deployment across all platforms. Insomnia is a tool used to test the APIs.





Algorithms Explanation

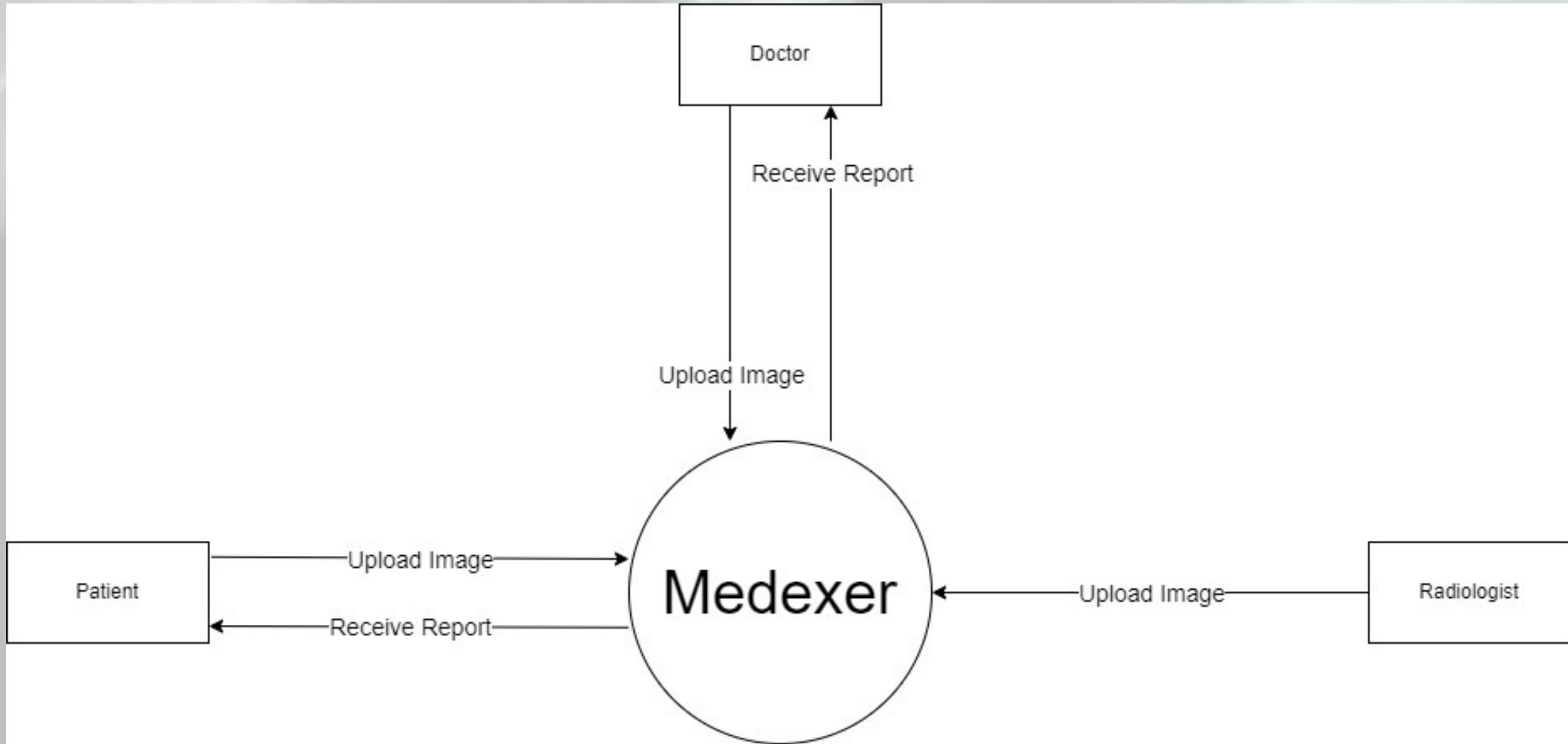
TensorFlow's Keras API is used for building and training our Convolutional Neural Network, which classifies x-ray images for diagnosis. The deep learning model integrates different layers.

- Convolutional Layers
- Batch Normalization
- Dropout
- Regularization

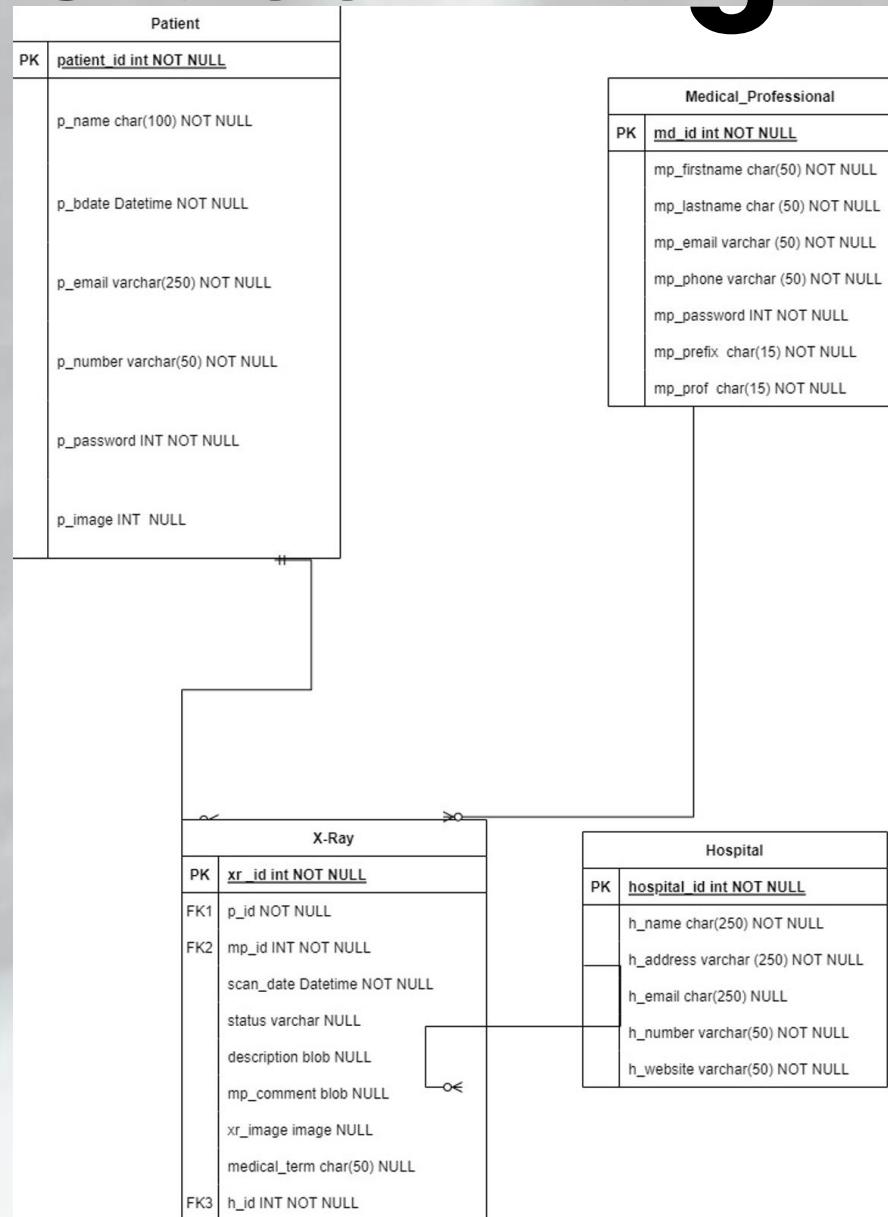
We optimized training with the Adam algorithm



Context Diagram



Class Diagram

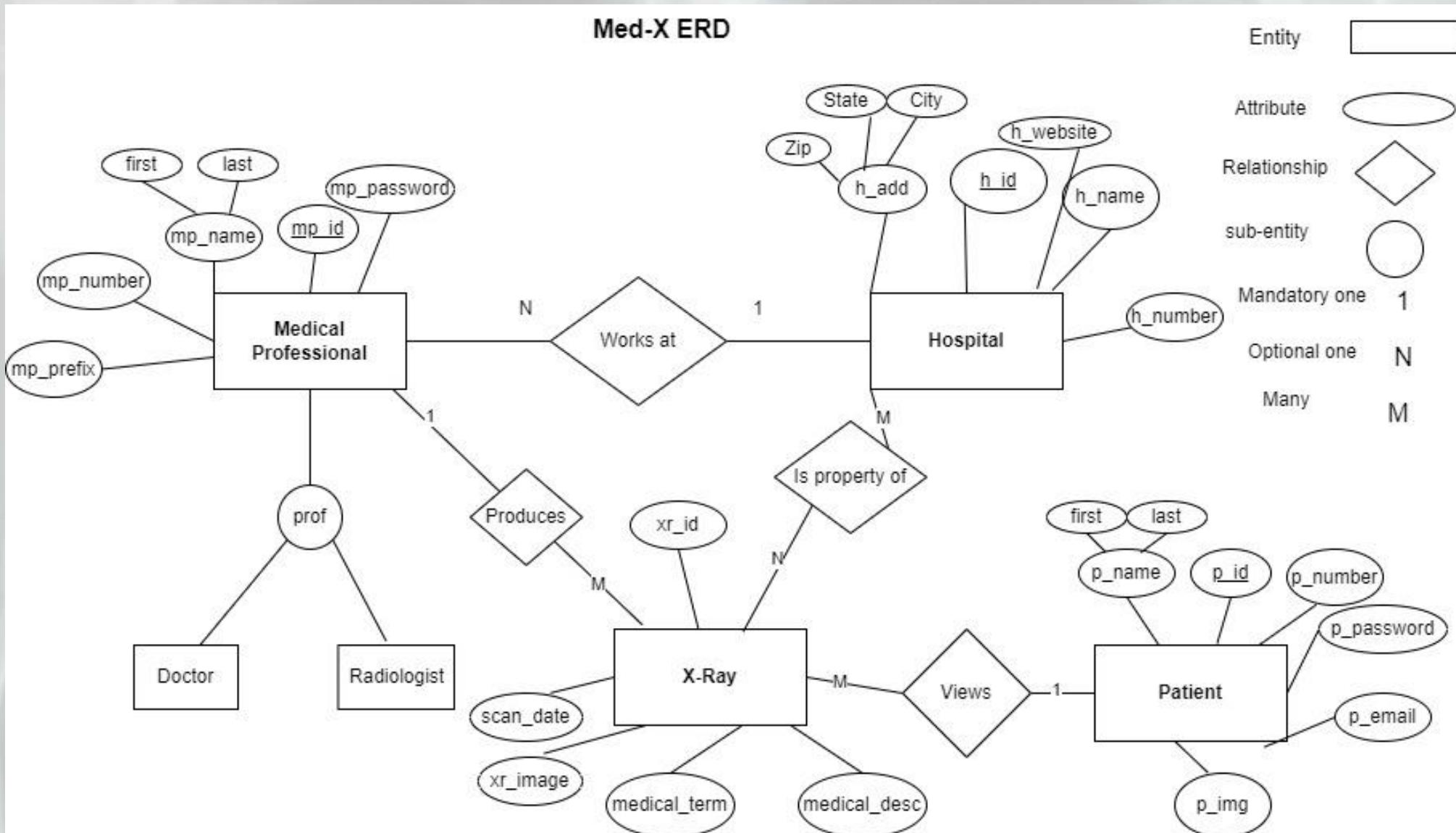




MED-X AI

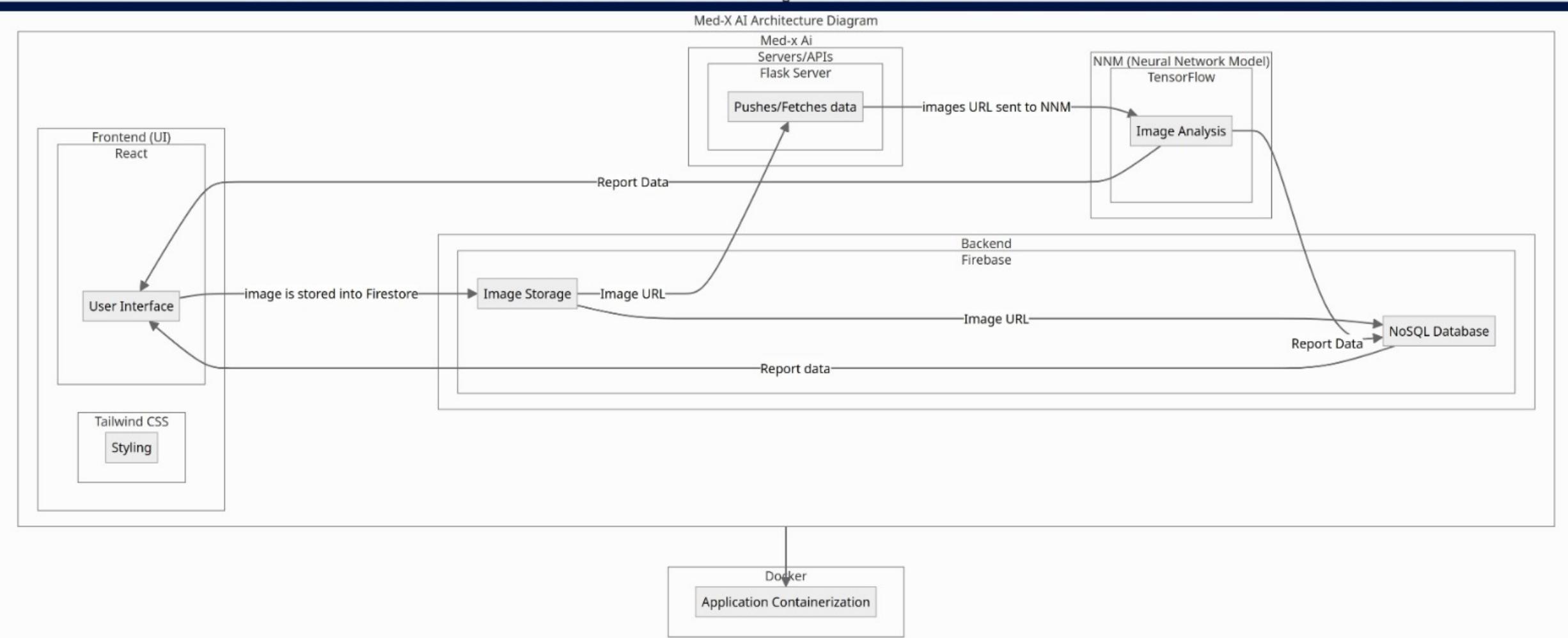
ER Diagram

Med-X ERD



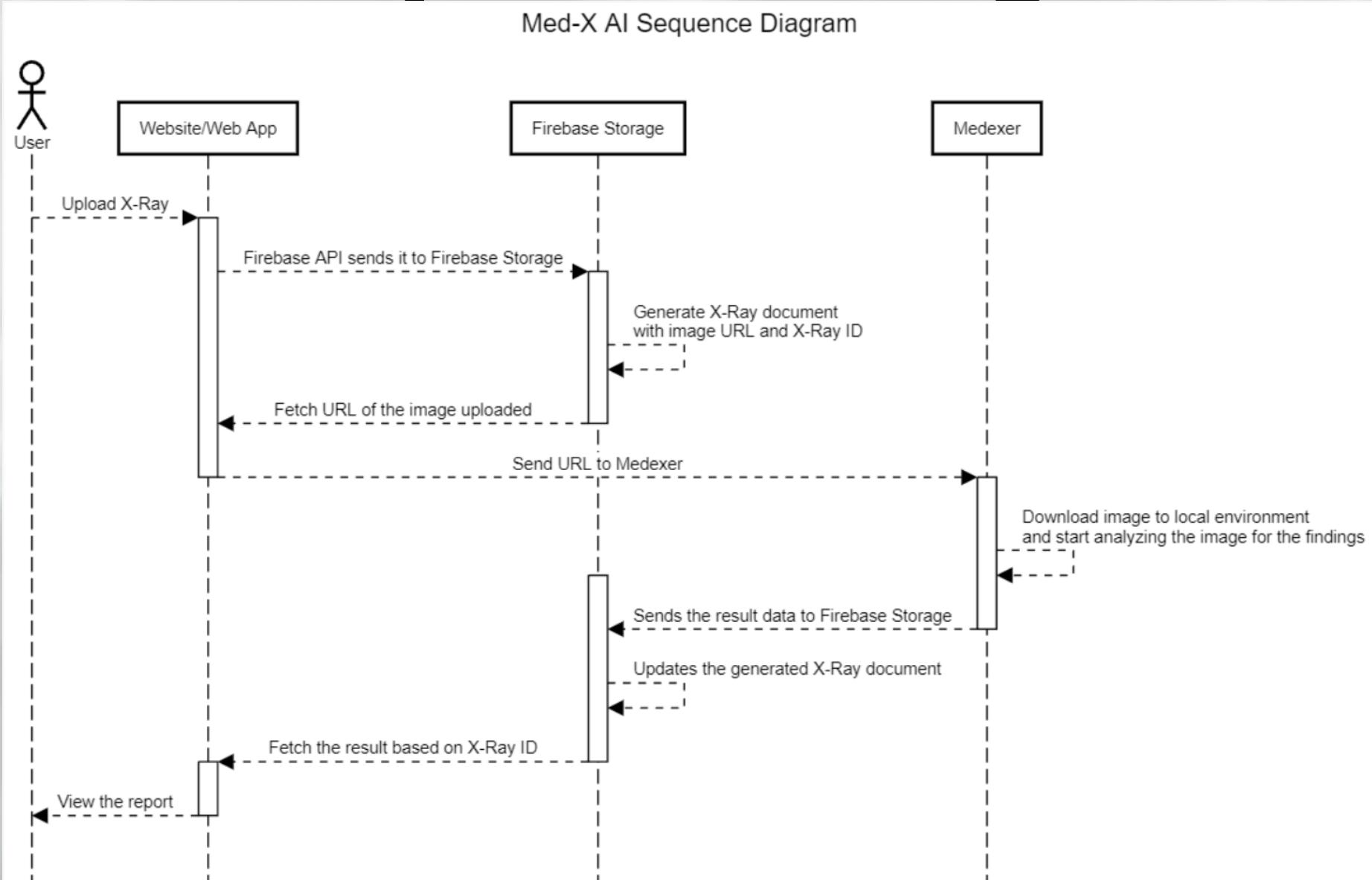


Architecture Diagram



Sequence Diagram

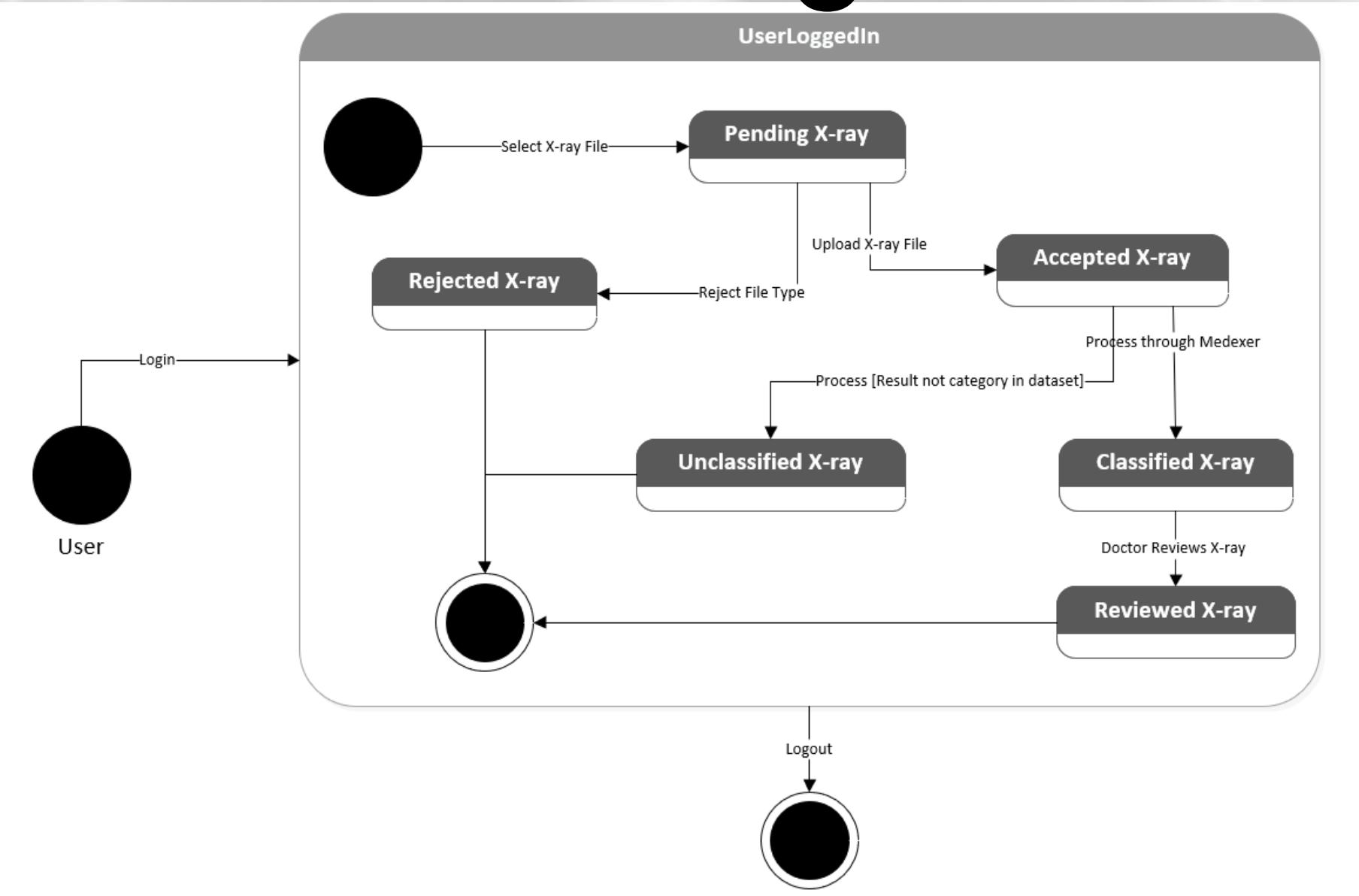
Med-X AI Sequence Diagram





MED-X AI

State Diagram





MED-X AI

User Stories / Story Points

Estimation	User ID	As a	I want	So that	Feature
3	1	Radiologist	to easily upload x-ray images	doctors and patients have access to the images	Image Upload
3	2	Doctor	to easily upload x-ray images	doctors and patients have access to the images	Image Upload
3	3	Patient	to easily upload x-ray images from my personal machine	doctors have access to the images for review	Image Upload
13	4	Radiologist	to provide quick and automated x-ray results for common chest health issues	more time can be dedicated to analyze uncommon chest health issues	Medexer (AI)
13	5	Doctor	to provide quick and automated x-ray results for common chest health issues	patient response rate and physician workflow improves	Medexer (AI)
8	6	Doctor	to add comments to patient x-ray results	patients are informed early about other information the result does not provide	Doctor Notes
5	7	Patient	to view whether a doctor has reviewed my x-ray results	I can be more confident about the verified results	Reviewed Status

Legend:

Sprint 2

Sprint 3

Sprint 4



MED-X AI

User Stories / Story Points

Estimation	User ID	As a	I want	So that	Feature
2	8	Patient	my x-ray results to be explained in simpler terms	I can better understand my diagnosis and health issue	Result Description
1	9	Doctor	to download patient x-ray reports	I can store patient records locally	Download Report
1	10	Patient	to download my x-ray reports	I can store patient records locally	Download Report
5	11	Patient	to have access to all of my x-ray report history	I can track my chest health issues	Report History
5	12	Doctor	to have access to all patient x-ray report histories	I can track patient chest health issues	Report History
2	13	Patient	to quickly view my latest x-ray report	my most recent information is easily accessible	Dashboard
5	14	Patient	to be notified once there is a change to my reports (upload, review, notes, etc.)	I can be informed about any updates as soon as possible	Notification

Legend:

Sprint 2

Sprint 3

Sprint 4



MED-X AI

User Stories / Story Points

Estimation	User ID	As a	I want	So that	Feature
5	15	Doctor	to be notified once there is a change to patient reports (upload, report, etc.)	I can be informed about any updates as soon as possible	Notification
8	16	Doctor	to browse a specific report and record	I can quickly locate specified information	Search
8	17	Patient	to browse a specific report and record	I can quickly locate specified information	Search
3	18	Radiologist	to register and store my personal info (ID, name, D.O.B.) in my own account	I can access patient information and connect with patients and doctors privately	Profile
3	19	Doctor	to register and store my personal info (ID, name, D.O.B.) in my own account	I can access patient information and connect with patient and radiologists privately	Profile

Legend:

Sprint 2

Sprint 3

Sprint 4



User Stories / Story Points

Estimation	User ID	As a	I want	So that	Feature
3	20	Patient	to register and store my personal info (ID, name, D.O.B.) in my own account	I can access my medical information and connect with doctors privately	Profile
3	21	Patient	to login and logout of my own account	my medical information, records and reports are secure	Login/Logout
3	22	Doctor	to login and logout of my own account	Patient medical information, records and reports are secure	Login/Logout
3	23	Patient	to login using my e-mail address	I can access my medical information, records and reports	Login/Logout
3	24	Doctor	to login using my medical professional ID number	I can access patient medical information, records and reports	Login/Logout
1	25	Patient	update my personal information such as my name, address, phone number etc.	the portal has up-to-date information in the event I need to be reached urgently	Profile

Legend:

Sprint 2

Sprint 3

Sprint 4



User Stories / Acceptance Criteria

User ID	Scenario	Summary	Criteria	Feature
	As a Radiologist I want to easily upload x-ray images so that doctors and patients have access to the images			
1	A radiologist wants to upload an x-ray image	Given I'm a radiologist when I open the Med-X AI web app I should be able to locate an upload button that when clicked on and an image is selected then the application will store the image for processing	Med-X AI App will store the image for processing	Image Upload
	As a Doctor I want to easily upload x-ray images so that doctors and patients have access to the images			
2	A doctor wants to upload an x-ray image	Given I'm a doctor when I open the Med-X AI web app I should be able to locate an upload button that when clicked on and an image is selected then the application will store the image for processing	Med-X AI App will store the image for processing	Image Upload
	As a Patient I want to easily upload x-ray images from my personal machine so that doctors have access to the images for review			
3	A patient wants to upload an x-ray image	Given I'm a patient when I open the Med-X AI web app I should be able to locate an upload button that when clicked on and an image is selected then the application will store the image for processing	Med-X AI App will store the image for processing	Image Upload

Legend:

Sprint 2

Sprint 3

Sprint 4



User Stories / Acceptance Criteria

User ID	Scenario	Summary	Criteria	Feature
4	As a Radiologist I want to provide quick and automated x-ray results for common chest health issues so that more time can be dedicated to analyze uncommon chest health issues	Given I'm a radiologist when I upload an x-ray image then the application will provide a quick diagnosis	Med-X AI App will provide a diagnosis (finding) for the chest health issue	Medexer (AI)
5	As a Doctor I want provide quick and automated x-ray results for common chest health issues so that patient response rate and physician workflow improves	Given I'm a doctor when an x-ray image produces quick results I can then access the result in order to provide patients with a verified response	Med-X AI App will provide a diagnosis (finding) for the chest health issue	Medexer (AI)
6	As a Doctor I want to add comments to patient results so that patients are informed early about other information the result does not provide	Given I'm a doctor when I click on the Doctor's Comments section on a patient's report I can then type and post a message that the patient can see	Med-X AI App will provide a text message section for each report to allow doctors to post	Doctor Notes
Legend:		Sprint 2	Sprint 3	Sprint 4



User Stories / Acceptance Criteria

User ID	Scenario	Summary	Criteria	Feature
7	As a Patient I want to view whether a doctor has reviewed my x-ray results so that I can be more confident about the verified results A patient wants to see any additional comments from the doctor	Given I'm a patient when I click on a report in Reports, I can then view a status bar reporting if a doctor has verified the x-ray result	Med-X App will allow patients to view "Under Review" or "Reviewed" status bar in reports	Reviewed Status
8	As a Patient I want my x-ray results to be explained in simpler terms so that I can better understand my diagnosis and health A patient wants to better understand their x-ray result	Given I'm a patient when I click on a report in Reports tab, I can then view a text description of the result in plain language so I can better understand the technical result	Med-X AI App will provide a text description of the finding in the selected report	Result Description
9	As a Doctor I want to download patient x-ray reports so that I can store patient records locally A Doctor wants to store patient records locally	Given I'm a doctor when I open a patient's report and click a download button the selected record is then downloaded and saved to my local computer	Med-X AI App will transfer the report file from the remote system to the user's local system	Download Report

Legend:

Sprint 2

Sprint 3

Sprint 4



User Stories / Acceptance Criteria

User ID	Scenario	Summary	Criteria	Feature
	As a Patient I want to download my x-ray reports so that I can store my records locally			
10	A patient wants to store medical records locally	Given I'm a patient when I open my report and click a download button the selected report is then downloaded and saved to my local computer	Med-X AI App will transfer the report file from the remote system to the user's local system	Download Report
	As a Patient I want to have access to my x-ray report history so that I can track my chest health issues			
11	A patient wants to keep track of all of their x-ray reports	Given I'm a patient when I click on the Reports tab then I should see a gallery of reports that have been generated	Med-X AI App will store all the reports in the cloud	Report History
	As a Doctor I want to have access to patient x-ray report histories so that I can track patient chest health issues			
12	A doctor wants to keep track of their patients reports	Given I'm a doctor when I click on the Reports tab of a specific patient then I should see a gallery of reports that has been generated for that patient	Med-X AI App will store all the reports in the cloud	Report History

Legend:

Sprint 2

Sprint 3

Sprint 4



User Stories / Acceptance Criteria

User ID	Scenario	Summary	Criteria	Feature
	As a Patient I want to quickly view my latest x-ray report so that my most recent information is easily accessible			
13	A patient wants to view their latest x-ray report	Given I'm a patient when I log into the account then the Dashboard page will be displayed with the most recent x-ray results	Med-X AI App will open to the Dashboard upon sign in	Dashboard
	As a Patient I want to be notified once there is a change to my reports (upload, review, notes, etc.) so that I can be informed about any updates as soon as possible			
14	A patients wants to be informed of any changes to their reports	Given I'm a patient when a change is made to my report then I should receive a notification	Med-X AI App will alert the user of a change made to their report	Notification
	As a Doctor I want to be notified once there is a change to patient reports (upload, report, etc.) so that I can be informed about any updates as soon as possible			
15	A doctor wants to be informed of any changes to patient reports	Given I'm a doctor when a change is made to a patient report then I should receive a notification	Med-X AI App will alert the user of a change made to their report	Notification

Legend:

Sprint 2

Sprint 3

Sprint 4



User Stories / Acceptance Criteria

User ID	Scenario	Summary	Criteria	Feature
	As a Doctor I want to browse all reports and records so that I can quickly locate specified information			
16	A doctor wants to locate a specific report/record	Given I'm a doctor when I search for a report in the search bar then I should be able to quickly locate it	Med-X AI App will store reports using an x-ray id and patient name	Search
	As a Patient I want to browse my reports and records so that I can quickly locate specified information			
17	A patient wants to locate a specific report/record	Given I'm a patient when I search for a report in the search bar then I should be able to quickly locate it	Med-X AI App will store reports using an x-ray id	Search
	As a Radiologist I want to register and store my personal info (ID, name, DOB) in my own account so that I can access patient information and connect to patients and doctors privately			
18	A radiologist wants to create their own account to securely access patient information	Given I'm a radiologist when I use the app, I should be able to have my own account then patient information will be secured, and communication will be private	Med-X AI App will store user credentials (medx ID)	Profile

Legend:

Sprint 2

Sprint 3

Sprint 4



User Stories / Acceptance Criteria

User ID	Scenario	Summary	Criteria	Feature
	As a Doctor I want to register and store my personal info (ID, name, DOB) in my own account so that I can access patient information and connect to patients and radiologists privately			
19	A doctor wants to create their own account to securely access patient information	Given I'm a doctor when I use the app, I should be able to have my own account then patient information will be secured, and communication will be private	Med-X AI App will store user credentials (medx ID)	Profile
	As a Patient I want to register and store my personal info (ID, name, DOB) in my own account so that I can access my medical information and connect to doctors privately			
20	A patient wants to create their own account to securely access their information	Given I'm a patient when I use the app, I should be able to have my own account then my information will be secured, and communication will be private	Med-X AI App will store email and password	Profile

Legend:

Sprint 2

Sprint 3

Sprint 4



MED-X AI

User Stories / Acceptance Criteria

User ID	Scenario	Summary	Criteria	Feature
	As a Patient I want to login and logout of my own account so that my medical information, records and reports are secure			
21	A patient wants to securely and privately start and end sessions on their account	Given I'm a patient when I open the app, I then am prompted to log in to my account with my credentials and click a logout button to end my session	Med-X AI App will begin with a login page and have a button to logout of the current account	Login/Logout
	As a Doctor I want to login and logout of my own account so that patient medical information, records and reports are secure			
22	A doctor wants to securely and privately start and end sessions on their account	Given I'm a doctor when I open the app, I then am prompted to log in to my account with my credentials and click a logout button to end my session	Med-X AI App will begin with a login page and have a button to logout of the current account	Login/Logout

Legend:

Sprint 2

Sprint 3

Sprint 4



MED-X AI

User Stories / Acceptance Criteria

User ID	Scenario	Summary	Criteria	Feature
	As a Patient I want to login using my e-mail address so that I can access my medical information, records and reports			
23	A patient wants to access their medical records by using their personal e-mail address	Given I'm a patient when I am prompted to login, I can then enter my personal e-mail address to access the records related to my account	Med-X AI App will create and store patient accounts through e-mail (username)	Login/Logout
	As a Doctor I want to login using my medical professional ID number so that I can access patient medical information, records and reports			
24	A doctor wants to access patient medical records by using their ID number	Given I'm a doctor when I am prompted to login, I can then enter my personal medx ID number to access the records related to my account	Med-X AI App will create and store doctor accounts through their ID number (username)	Login/Logout

Legend:

Sprint 2

Sprint 3

Sprint 4



MED-X AI

User Stories / Acceptance Criteria

User ID	Scenario	Summary	Criteria	Feature
	<p>As a Patient I want to update my personal information such as my name, address, phone number, etc. so that the portal has up-to-date information in the event I need to be reached urgently</p>			
25	A patient wants to update personal profile information when they change	Given I'm a patient when I click my profile and the edit button, I can then change the inputted profile information (name, address, phone number, etc.) and click save	Med-X AI App will allow patients to update profile information and store the changes in the database	Profile

Legend:

Sprint 2

Sprint 3

Sprint 4



MED-X AI

Test Cases

User ID	Feature to Test	Test Case	Test Steps	Test Data	Expected Result	Actual Result	Pass/Fail	Comments
1 & 2	Image Upload	Verify accepted image file type (Medexer)	Click Medexer tab -> Click Browse button -> Select PNG/JPG image file	PNG/ JPG file	Selected PNG file uploaded and image is presented to upload	Image is uploaded to the Medexer tool	Pass	PNG Image file accepted
1 & 2	Image Upload	Verify accepted image file type (Medexer)	Click Medexer tab -> Click Browse button -> Select PDF file	PDF file	Error message is displayed	Unsupported file format. Please upload a .png or .jpeg file	Pass	PDF Image is unsupported
	Firebase	Successful Image Upload	Click Medexer tab -> Click Browse button -> Select PNG/JPG image file -> Alert Message -> Firebase Storage	PNG/ JPG file	Image uploaded is stored in Firebase	Image uploaded	Pass	Image is available in the cloud



MED-X AI

Test Cases

User ID	Feature to Test	Test Case	Test Steps	Test Data	Expected Result	Actual Result	Pass/Fail	Comments
4 & 5	Findings	Passing a non-x-ray image to Med-X NNM	Click Medexer tab -> Click Browse button -> Select any file that is PNG/JPG image -> Click Submit	PNG/JPG file	Error Message "Make sure you have uploaded a chest x-ray image"	No finding	Fail	Error message is not displayed
4 & 5	Findings	passing an x-ray image with no known disease to Med-X NNM	Click Medexer tab -> Click Browse button -> Select a PNG/JPG image -> Click Submit	PNG/JPG file	No Finding	No Finding	Pass	Insufficient data NNM may not be accurate
4 & 5	Findings	Passing an x-ray image with a disease to Med-X NNM	Click Medexer tab -> Click Browse button -> Select a PNG/JPG image -> Click Submit	PNG/JPG file	A Finding	Aortic Enlargement	Pass	Medical term of disease was provided Insufficient data NNM may not be accurate



MED-X AI

Sprint 2 Stories:

Estimation	User ID	As a	I want	So that	Feature
3	1	Radiologist	to easily upload x-ray images	doctors and patients have access to the images	Image Upload
3	2	Doctor	to easily upload x-ray images	doctors and patients have access to the images	Image Upload
3	3	Patient	to easily upload x-ray images from my personal machine	doctors have access to the images for review	Image Upload
13	4	Radiologist	to provide quick and automated x-ray results for common chest health issues	more time can be dedicated to analyze uncommon chest health issues	Medxer (AI)
13	5	Doctor	quick access to patient x-ray results for common chest health issues	patient response rate and physician workflow improves	Medxer (AI)

Sprint 2 Story Points: 35



Sprint 2 Story Completion

Estimation	User ID	As a	I want	So that	Feature	Status
3	1	Radiologist	to easily upload x-ray images	doctors and patients have access to the images	Image Upload	Completed
3	2	Doctor	to easily upload x-ray images	doctors and patients have access to the images	Image Upload	Completed
3	3	Patient	to easily upload x-ray images from my personal machine	doctors have access to the images for review	Image Upload	Completed
13	4	Radiologist	to provide quick and automated x-ray results for common chest health issues	more time can be dedicated to analyze uncommon chest health issues	Medxer (AI)	Completed
13	5	Doctor	quick access to patient x-ray results for common chest health issues	patient response rate and physician workflow improves	Medxer (AI)	Completed

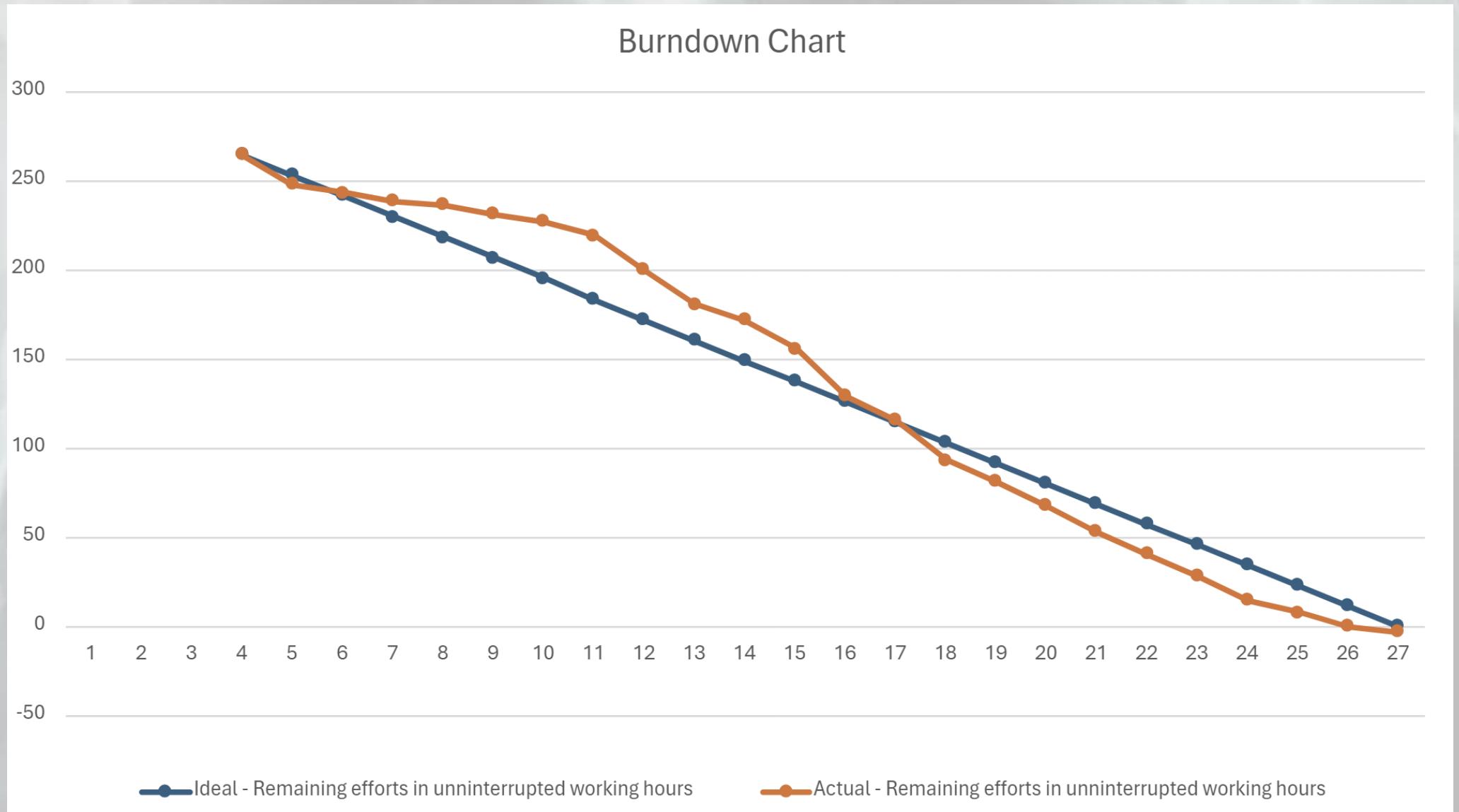


Team Velocity

35

*story
points*

Burndown Chart





Completed / Committed Ratio

35/35

100%

Sprint 2 Story Points: 35



Project Schedule

Projects / Med-X / MEDX board
MEDX Sprint 2

1 day remaining | ⚡ ⭐ 🔍 ↻ Complete sprint

Insights | View settings

TO DO 2

- Update WikiPage MEDX-30 AM
- Record video for Sprint 2 deliverable MEDX-33 RM

IN PROGRESS 4

- Working on the Neural Network Model (Machine Learning/Deep Learning) MEDX-16 M
- Submit wiki page, deliverable for sprint2 MEDX-38 M
- Work on the PPT slides for Sprint 2 MEDX-36 M
- Peer to Peer Review Sprint 2 MEDX-37 M

DONE 12

- Creating User Stories for the entire project MEDX-18 M
- Architecture Diagram MEDX-31 PR
- Please complete by Monday's Meeting so we can focus on the project tasks during the week. MEDX-9 M
- State Diagram MEDX-32 LM
- Record Retrospective Video for Sprint 2 MEDX-35 RM
- Give updates about our current work Talk about the feedback given back from the professor about sprint 1 Try to figure out what to use for data storage (200 GB) Discuss using cloud computing solutions for A... MEDX-11 M
- Creating a sequence diagram for the project MEDX-12 AM
- MVP Recorded video MEDX-29 RM



Project Backlog

Projects / Med-X / MEDX board
Backlog

Q RM AM CO FZ LM M +3 Version Epic Label Quick filters Insights View settings

MEDX Sprint 2 19 Feb – 13 Mar (18 issues)

0 0 0 Complete sprint ...

Issue ID	Description	Status	Assignee
MEDX-18	Creating User Stories for the entire project	DONE	M
MEDX-31	Architecture Diagram	DONE	PR
MEDX-9	Please complete by Monday's Meeting so we can focus on the project tasks during the week.	DONE	LM
MEDX-32	State Diagram	DONE	AM
MEDX-35	Record Retrospective Video for Sprint 2	DONE	CO
MEDX-11	Give updates about our current work Talk about the feedback given back from the professor about sprint 1 Try to figure out what to use for data storage (200 GB) ...	DONE	FZ
MEDX-12	Creating a sequence diagram for the project	DONE	RM
MEDX-16	Working on the Neural Network Model (Machine Learning/Deep Learning)	IN PROGRESS	AM
MEDX-38	Submit wiki page, deliverable for sprint2	IN PROGRESS	CO
MEDX-29	MVP Recorded video	DONE	FZ
MEDX-21	ERD Diagram	DONE	RM
MEDX-26	Drag and Drop + File uploading logic connecting through Firebase	DONE	AM
MEDX-24	Backend Environment + API + Docker	DONE	CO
MEDX-28	Context Diagram	DONE	FZ
MEDX-30	Update WikiPage	TO DO	AM
MEDX-33	Record video for Sprint 2 deliverable	TO DO	CO
MEDX-36	Work on the PPT slides for Sprint 2	IN PROGRESS	RM
MEDX-37	Peer to Peer Review Sprint 2	IN PROGRESS	AM

Retrospective:

Retrospective 2

What went well +

I am impressed with the way the back-end team came together to come up with a solution to overcome software incompatibilities through Docker + 9	team efficiency and enthusiasm towards achieving the goal increased + 9
Solid Team Communication + 6	Front-End team did an awesome job making sure we have the MVP design ready before the end of the Sprint2 + 6
Getting clarification from professor whenever we had doubts about a task + 6	Created an agenda for each meeting + 5
The willingness to help each other at any time of the day + 5	Troubleshooting + 4
Good estimation of hours for a specific task + 4	team flexibility + 3
Organized Agenda + 3	- We know what to expect for Sprint 3 + 3
pair programming was encouraged + 3	We used different management tasks apps such as ClickUp and Jira to keep track of tasks + 3

What needs to be Improved +

Better way to outline the tasks for each member after our meetings + 7	Send an update whenever someone has completed their task + 6
Figure out how to do Zoom recording and display everyone on the side for the upcoming retrospective videos + 5	Still working on overlapping when speaking + 5
Do more dry runs for when recording a video to avoid future conflicts + 4	Make sure to get rid of branches we didn't need from our repository + 4
frequent pair programming sessions + 3	Thinking ahead in terms of how we're going to ship/use the product + 3
Asking for help more often from fellow team members + 3	feeling of becoming overwhelmed + 2
availabilty of all the mebers for the important meet fails sometimes + 2	Ensuring everyone's GitHub is up to date + 2
contributing more towards github through more commits than just the main updateds. + 2	coming up with solutions for our concerns + 1

Action Items +

Writing down steps as a reminder of how to display all participants (gallery) + 0	Send an update on what you are working on through Jira + 0
Asking for help when needed + 0	



Retrospective:

What Went Well

- Coming up with a solution to overcome software incompatibility
- Team efficiency and enthusiasm towards achieving the goal
- Getting clarification when there were doubts

What needs to be Improved

- Outlining tasks for each team member
- Sending an update whenever someone is done with their task
- Figuring out how to do Zoom recordings so everyone is displayed (gallery view)

Action Items

- Writing down steps of how to display all participants on the screen
- Send an update on Jira
- Asking for help when needed



Sprint 3 Stories:

Estimation	User ID	As a	I want	So that	Feature
8	6	Doctor	to add comments to patient x-ray results	patients are informed early about other information the result does not provide	Doctor Notes
5	7	Patient	to view whether a doctor has reviewed my x-ray results	I can be more confident about the verified results	Reviewed Status
1	9	Doctor	to download patient x-ray reports	I can store patient records locally	Download Report
1	10	Patient	to download my x-ray reports	I can store patient records locally	Download Report
2	13	Patient	to quickly view my latest x-ray report	my most recent information is easily accessible	Dashboard
8	16	Doctor	to browse a specific report and record	I can quickly locate specified information	Search
8	17	Patient	to browse a specific report and record	I can quickly locate specified information	Search

Sprint 3 Story Points: 33



MED-X AI

Code Snippet:

The screenshot shows a code editor interface with a dark theme. The top navigation bar has tabs for medexer.js (active), dashboard.js, loading.js, navbar.js, report.js, and index.js. Below the tabs, the file path is displayed as Project > my-react-app > src > pages > medexer.js > ...

```
1 + import React, { useState, useRef } from 'react';
2 import Uploading from "../components/img/upload.png";
3 import storage from "../firebase.js";
4 import { ref, getDownloadURL, uploadBytes } from "firebase/storage";
5 import { v4 } from "uuid";
6 import { useNavigate } from "react-router-dom";
7 import Loading from './loading.js';
8
9 | You, 6 days ago • Uncommitted changes
10 const Medexer = () => {
11   const [fileData, setFileData] = useState({ previewFile: null, errorMessage: '' });
12   const fileInputRef = useRef(null);
13   const [isDraggingOver, setIsDraggingOver] = useState(false);
14   const [uploadedImage, setUploadedImage] = useState(null)
15
16   const [finding, setFinding] = useState('');
17   const [isLoading, setIsLoading] = useState(false); //state for loading status
18
19   const history = useNavigate()
20
21   const openFileDialog = () => {
22     fileInputRef.current.click();
23   };
24
25   const handleDragOver = (e) => {
26     e.preventDefault();
27     setIsDraggingOver(true);
28   };
29
30   const handleDrop = (e) => {
31     e.preventDefault();
32     const files = e.dataTransfer.files;
33     if (files.length === 0) return;
34     const file = files[0];
35     const reader = new FileReader();
36     reader.readAsDataURL(file);
37     reader.onload = (e) => {
38       setFileData({ previewFile: e.target.result, errorMessage: '' });
39     };
40     reader.onerror = (e) => {
41       setFileData({ previewFile: null, errorMessage: e.target.error.message });
42     };
43   };
44
45   const handleFileSelect = (e) => {
46     const file = e.target.files[0];
47     if (!file) return;
48     const storageRef = ref(storage, `images/${file.name}`);
49     uploadBytes(storageRef, file).then((snapshot) => {
50       getDownloadURL(snapshot.ref).then((url) => {
51         setUploadedImage(url);
52       });
53     });
54   };
55
56   const handleUpload = () => {
57     if (!fileData.previewFile) return;
58     setIsLoading(true);
59     const storageRef = ref(storage, `images/${fileData.previewFile.name}`);
60     uploadBytes(storageRef, fileData.previewFile).then((snapshot) => {
61       getDownloadURL(snapshot.ref).then((url) => {
62         setUploadedImage(url);
63       });
64     }).catch((error) => {
65       console.error(error);
66     });
67     setIsLoading(false);
68   };
69
70   const handleFind = () => {
71     history.push(`?finding=${finding}`);
72   };
73
74   const handleReset = () => {
75     history.push('/');
76   };
77
78   const handleLogout = () => {
79     localStorage.removeItem('user');
80     history.push('/login');
81   };
82
83   const handleLoading = () => {
84     Loading();
85   };
86
87   const handleReport = () => {
88     history.push('/report');
89   };
90
91   const handleDashboard = () => {
92     history.push('/dashboard');
93   };
94
95   const handleNavbar = () => {
96     history.push('/navbar');
97   };
98
99   const handleReport = () => {
100    history.push('/report');
101  };
102
103  return (
104    <div>
105      <h1>Medexer</h1>
106      <div>
107        <input type="file" ref={fileInputRef} />
108        <br/>
109        <div>{fileData.errorMessage}</div>
110        <br/>
111        <div>{isDraggingOver ? "Drag and drop file here" : "Drag and drop file here"}</div>
112        <br/>
113        <div>{uploadedImage}</div>
114        <br/>
115        <button onClick={handleUpload}>Upload</button>
116        <br/>
117        <button onClick={handleFind}>Find</button>
118        <br/>
119        <button onClick={handleReset}>Reset</button>
120        <br/>
121        <button onClick={handleLogout}>Logout</button>
122        <br/>
123        <button onClick={handleLoading}>Loading</button>
124        <br/>
125        <button onClick={handleReport}>Report</button>
126        <br/>
127        <button onClick={handleDashboard}>Dashboard</button>
128        <br/>
129        <button onClick={handleNavbar}>Navbar</button>
130      </div>
131    </div>
132  );
133}
```



Application Screenshots:

A screenshot of the MED-X AI dashboard. At the top, there's a search bar and user profile icons. Below it, the word "Dashboard" is displayed. A large thumbnail of a chest X-ray image shows a hernia. To the right of the image, the word "Results" and the date "18th January 2014 4:30pm" are shown. Below the image, a "Doctors Message:" section contains placeholder text. On the left side, there are navigation links for "Dashboard" and "Medexer".

Search

MED-X AI

Dashboard

Results 18th January 2014 4:30pm

Hernia

Horem ipsum dolor sit amet, consectetur adipiscing elit. Etiam eu turpis molestie, dictum est a, mattis tellus. Sed dignissim, metus nec fringilla accumsan, risus sem sollicitudin lacus, ut interdum tellus elit sed risus. Maecenas eget condimentum velit

Doctors Message:

Horem ipsum dolor sit amet, consectetur adipiscing elit. Etiam eu turpis molestie, condimentum velit

copyright Med-X AI

A screenshot of the MED-X AI application showing the upload interface. At the top, there's a search bar and user profile icons. The main area features a large cloud icon with an upward arrow, indicating where to drag and drop files. Below the cloud, the text "Drag & Drop to Upload Chest X-ray" is displayed, along with a "Browse" button and a note about supported file formats (.png, .jpeg). On the left, there's a sidebar with the MED-X AI logo and navigation links for "Dashboard" and "Medexer".

Search

MED-X AI

Dashboard

Medexer

Drag & Drop to Upload Chest X-ray

Browse

Supported File formats: .png, .jpeg

copyright Med-X AI



Application Screenshots:

The screenshot displays the Med-X AI mobile application interface. At the top, there is a dark header bar with a search bar labeled "Search" and three circular icons for search, notifications, and user profile. The main content area has a dark background. On the left, a vertical sidebar contains the Med-X AI logo at the top, followed by two menu items: "Dashboard" with a bar chart icon and "Medexer" with a stylized 'X' icon. The main content area features the word "Report" in large white letters. Below it is a grayscale chest X-ray image showing the lungs and heart silhouette. To the right of the image, the word "Results" is displayed above the text "March 10, 2024 at 4:08 PM". Below this timestamp is the AI-generated finding: "Aortic enlargement".

Search

Report

Dashboard

Medexer

Results

March 10, 2024 at 4:08 PM

Aortic enlargement

copyright Med-X AI



Application Screenshots:

The screenshot shows the MED-X AI application interface. On the left, there's a sidebar with the MED-X AI logo and two menu items: 'Dashboard' and 'Medexer'. The main area has a dark background. At the top right, there's a search bar, a notification bell icon, and a user profile picture. A red error message box in the center says 'Unsupported file format. Please upload a .png or .jpeg file.' with a 'Close' button. Below it is a large cloud icon with an upward arrow, and text that says 'Drag & Drop to Upload Chest X-ray'. Underneath is a 'Browse' button. At the bottom, it says 'Supported File formats: .png, .jpeg'. The footer contains the text 'copyright Med-X AI'.

Search

Unsupported file format. Please upload a .png or .jpeg file. [Close](#)

Dashboard

MED-X AI

Medexer

Drag & Drop to Upload Chest X-ray

Browse

Supported File formats: .png, .jpeg

copyright Med-X AI



MED-X AI

Firebase API:

```
JS medexer.js X
Project > my-react-app > src > pages > JS medexer.js > [e] Medexer
  3  import storage from "../firebase.js";
  4  import { ref, getDownloadURL, uploadBytes } from "firebase/storage";
  5  import { v4 } from "uuid";
  6  import { useNavigate } from "react-router-dom";
  7  import Loading from './loading.js';
  8
  9
 10 const Medexer = () => {
 11   const [fileData, setFileData] = useState({ previewFile: null, errorMessage: '' });
 12   const fileInputRef = useRef(null);
 13   const [isDraggingOver, setIsDraggingOver] = useState(false);
 14   const [uploadedImage, setUploadedImage] = useState(null)
 15
 16   const [finding, setFinding] = useState('');
 17   const [isLoading, setIsLoading] = useState(false); //state for loading status
 18

JS medexer.js X
Project > my-react-app > src > pages > JS medexer.js > [e] Medexer
10  const Medexer = () => {
11    const uploadImage = () => { //upload function that talks to storage service
12      if (uploadedImage == null) return; //if nothing has been uploaded, continue
13      setIsLoading(true); //setting loading to true before uploaded image
14      const imageRef = ref(storage, `images/${uploadedImage.name + v4()}`);
15      uploadBytes(imageRef, uploadedImage).then((snapshot) => { //translate image into bytes and send alert
16        getDownloadURL(snapshot.ref).then((url) => {
17          handlePredict(url)
18        })
19        alert("image uploaded");
20        setIsLoading(false); //set loading to false after uploaded image
21      });
22    };
23  };


```



MED-X AI

Flask/Cors:

```
server.py  X  
flask-server > server.py  
12     from flask import Flask, request, jsonify  
13     import requests  
14     from flask_cors import CORS  
15     from tensorflow.keras.models import load_model  
16     from predictions import get_finding  
17  
18     # Load the model  
19     model = load_model('dicom_images.keras')  
20  
21     app = Flask(__name__)  
22     CORS(app)  
23  
24     @app.route('/predict', methods=['GET', 'OPTIONS'])  
25  
26     def predict():  
27         try:  
28             # Get image URL from request arguments  
29             image_url = request.args.get('image_url')  
30  
31             # Download image  
32             print("Image URL:", image_url)  
33             response = requests.get(image_url, stream=True)
```

```
const handlePredict = async (imageURL) => {  
  
    try {  
        const response = await fetch(`http://localhost:5001/predict?image_url=${encodeURIComponent(imageURL)}`);  
  
        if (!response.ok) {  
            throw new Error('Failed to fetch');  
        }  
  
        const data = await response.json();  
  
        setFinding(data.prediction);  
        history("/report", { state: { result: data.prediction, img: imageURL } });  
        // setError('');  
    } catch (error) {  
        // setError('Error occurred while fetching data');  
        console.error(error);  
    }  
};
```



MED-X AI

Docker for CI/CD:

quizzical_perlman

myflaskapp

7b6ac82374be

5001:5000

STATUS
Running (4 minutes ago)

Logs Inspect Bind mounts Exec Files Stats

```
1/1 [=====] - 0s 41ms/step
2024-03-12 15:43:05 172.17.0.1 - - [12/Mar/2024 19:43:05] "GET /predict?image_url=https://firebasestorage.googleapis.com/v0/b/med-x-5f2b4.appspot.com/o/images%252F0000132
2_002.pngca4211bf-4875-476e-a564-0a0364e4ab01?alt%3Dmedia%26token%3Dec130f69-596c-4c70-af75-d646b40d1f7e HTTP/1.1" 200 -
2024-03-12 15:43:14 Image URL: https://firebasestorage.googleapis.com/v0/b/med-x-5f2b4.appspot.com/o/images%2F00001322_003.png4f315a6a-adce-4e37-a130-2fcba
9a7ff356?alt=med
ia&token=281e9d4b-01b9-4dd9-a8bf-23df65ed693f
2024-03-12 15:43:14 Image downloaded successfully!
1/1 [=====] - 0s 53ms/step
2024-03-12 15:43:14 172.17.0.1 - - [12/Mar/2024 19:43:14] "GET /predict?image_url=https://firebasestorage.googleapis.com/v0/b/med-x-5f2b4.appspot.com/o/images%252F0000132
2_003.png4f315a6a-adce-4e37-a130-2fcba
9a7ff356?alt%3Dmedia%26token%3D281e9d4b-01b9-4dd9-a8bf-23df65ed693f HTTP/1.1" 200 -
2024-03-12 15:43:23 Image URL: https://firebasestorage.googleapis.com/v0/b/med-x-5f2b4.appspot.com/o/images%2F00001322_004.pngff109c6b-bc30-40e7-bc41-e21dfe125c31?alt=med
ia&token=079db464-f343-40c2-a5fb-3c6763daec2d
2024-03-12 15:43:23 Image downloaded successfully!
1/1 [=====] - 0s 125ms/step
2024-03-12 15:43:23 172.17.0.1 - - [12/Mar/2024 19:43:23] "GET /predict?image_url=https://firebasestorage.googleapis.com/v0/b/med-x-5f2b4.appspot.com/o/images%252F0000132
2_004.pngff109c6b-bc30-40e7-bc41-e21dfe125c31?alt%3Dmedia%26token%3D079db464-f343-40c2-a5fb-3c6763daec2d HTTP/1.1" 200 -
2024-03-12 15:43:34 Image URL: https://firebasestorage.googleapis.com/v0/b/med-x-5f2b4.appspot.com/o/images%2F00001323_000.pngfa990c97-158c-4dad-97ba-0248bd0ac038?alt=med
ia&token=d7377887-e7af-4721-9031-28defefab6956
2024-03-12 15:43:34 Image downloaded successfully!
1/1 [=====] - 0s 51ms/step
2024-03-12 15:43:34 172.17.0.1 - - [12/Mar/2024 19:43:34] "GET /predict?image_url=https://firebasestorage.googleapis.com/v0/b/med-x-5f2b4.appspot.com/o/images%252F0000132
3_000.pngfa990c97-158c-4dad-97ba-0248bd0ac038?alt%3Dmedia%26token%3Dd7377887-e7af-4721-9031-28defefab6956 HTTP/1.1" 200 -
2024-03-12 15:43:42 Image URL: https://firebasestorage.googleapis.com/v0/b/med-x-5f2b4.appspot.com/o/images%2F00001323_001.png0e2b00f9-eb58-43ea-a8ca-730792fc650a?alt=med
ia&token=a26551bf-9ec9-4040-9436-f474b86982ba
2024-03-12 15:43:42 Image downloaded successfully!
1/1 [=====] - 0s 45ms/step
2024-03-12 15:43:42 172.17.0.1 - - [12/Mar/2024 19:43:42] "GET /predict?image_url=https://firebasestorage.googleapis.com/v0/b/med-x-5f2b4.appspot.com/o/images%252F0000132
3_001.png0e2b00f9-eb58-43ea-a8ca-730792fc650a?alt%3Dmedia%26token%3Da26551bf-9ec9-4040-9436-f474b86982ba HTTP/1.1" 200 -
2024-03-12 15:43:54 Image URL: https://firebasestorage.googleapis.com/v0/b/med-x-5f2b4.appspot.com/o/images%2F00001323_002.pngeb5f1cf2-e51d-4a74-83ad-902fb9e78845?alt=med
ia&token=28e84946-9ded-4c75-a8e7-754a0285c5ae
2024-03-12 15:43:54 Image downloaded successfully!
1/1 [=====] - 0s 41ms/step
```

Logs Inspect Bind mounts Exec Files Stats

SEARCH

COPY

REFRESH

DELETE



Docker:

Containers

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Container CPU usage ⓘ
0.37% / 1600% (16 CPUs available)

Container memory usage ⓘ
1.43GB / 7.44GB

Show charts

Search

☰Only show running containers

<input type="checkbox"/>	Name	Image	Status	CPU (%)	Port(s)	Last started	Actions
<input type="checkbox"/>	 serene_jone 10db8bc84cc	react-app	Running	0.08%	3000:3000	1 second ago	... ⋮ trash
<input type="checkbox"/>	 focused_bra df7af3266e29	flask-app	Running	0.29%	5001:5000	1 second ago	... ⋮ trash



Live Application Demo:





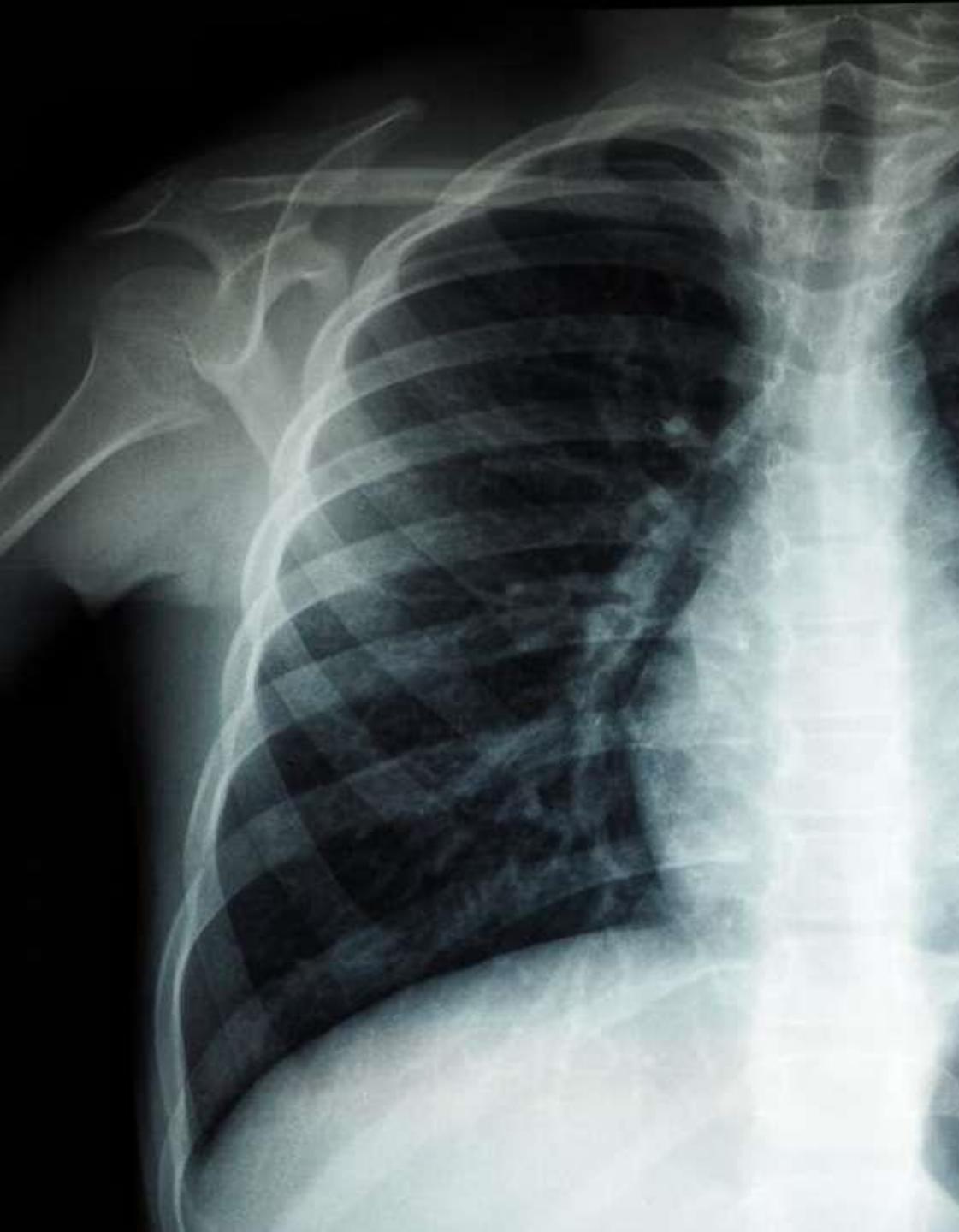
Next Steps:

- Improve the Accuracy of the Neural Network Model using Feature Learning
- Structured Printable / Downloadable Report of the Finding
- Doctor's Comment
- Report History / Searching a report



Wikipage Link

<https://github.com/htmw/2024S-Med-X/wiki>



Thank
You
For
Listening