Team Biased

SkinLens

Your Personal Dermatologist

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MOHAMMAD ZAID

TEAM LEADER/DEVELOPER

ZHUOWEN YAN

SCRUM MASTER/DEVELOPER

NAGANJALI PUJITHA KALLI

DBA/DEVELOPER

Roles and Responsibilities

MOHAMMED TANZIL
DEVELOPER/TESTER

BANGLING YIN
DEVELOPER

ABHI KUMAR
DEVELOPER/TESTER

WHAT PROBLEM ARE WE SOLVING?

Accurate and timely diagnosis of skin diseases is a challenge because:

- Limited availability of dermatologists in remote areas
- Traditional methods primarily involve only visual inspection of the skin which may overlook factors like patient's symptoms and medical history.

What does it affect?

This results in delayed diagnosis, limited personal care.

PROJECT DESCRIPTION

- A web-based platform to help patients diagnose skin conditions using deep learning.
- Intended for patients who wants to quickly access their skin conditions, skinLens integrates image analysis and NLP based symptom integration to provide accurate diagnosis of skin disease and recommend treatments.
- Intended for dermatologists who wants to quickly access patient’s skin conditions.
- Unlike traditional visual inspections, SkinLens uses multimodal data(images, symptoms) and offers more accurate predictions.
- Benefits - Improved diagnose accuracy, faster and personalized care and increased accessibility.

PATIENT PERSONA

Nashley Pagiroli

Age: 30
Gender: Female
Occupation: IT Employee
She is a busy professional person, living in a city and has sensitive skin prone to rash and acne.
Challenges:
- She has skin issues and often experiences delays in scheduling appointments with dermatologists.
- Finds it challenging to describe symptoms accurately and fears misdiagnosis due to lack of knowledge.
- Concerned about long-term skin damage and wants fast treatment options.

Goals:
- She wants a reliable, easy-to-use platform to self-access skin issues quickly and get initial feedback without needing to wait for appointments.
- Hopes to receive personalized treatment recommendations based on her skin type, age, and medical history.

PARENT PERSONA

Gloria Garson

Age : 40
Gender : Female
Occupation : House wife
She is a housewife balancing taking care of four children,household duties, and her husband,leaving her with little time to focus on individual healths.

Challenges:

- Frequently deals with minor skin issues like rashes or eczema among her kids.
- Finds to gets confused especially when it comes to skincare for different ages and skin types.
- Concerned about the cost and time required for multiple doctor visits, particularly for non-serious conditions.

Goals:

- Seeks personalized advice for each children skincare with their unique needs like skin type, allergies, or past treatments.
- Hopes to save time by using specific symptoms and images she uploads.
- Wants peace of mind by receiving accurate, clear advice and thinks homecare is sufficient.

DOCTOR PERSONA

Dr.Robert

Age : 35
Gender : Male
Occupation : Dermatologist
He is working in both a hospital and private clinic, treating a high volume of patients with various skin conditions.

Challenges:

●Manages a large patient load daily, leading to limited time for each consultation and difficulty providing personalized care.

● Often receives incomplete descriptions of symptoms, making it challenging to diagnose accurately without further testing or follow-ups.

●Struggles to track patient treatment outcomes over time,like eczema or psoriasis, due to irregular follow-ups or inconsistent data from patients.

Goals:

●Wants a platform of patient information, including symptom descriptions, images, and medical history, allowing for quick.

●Hopes to tracks patient progress over time, helping to adjust treatments.

●Aims to reduce the patient times.

WHAT WILL OUR MVP BE?

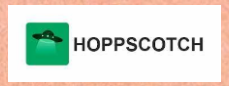
- Web based interface
- Image Processing
- AI Model
- Diagnosis Output
- Basic user management
- Mobile Responsiveness

Technologies and Algorithms

Programming languages, Frameworks/Libraries:

Databases:

Tools:



ALGORITHMS:

CNN (Convolutional Neural Network):

- CNN will be used to process and analyze the images of the patient's skin, identifying visual patterns
- Automated Feature Extraction
- Localized Pattern Detection
- Efficient Dimensionality Reduction
- High Accuracy in Disease Classification.

Natural Language Processing:

- Text Generation Model: We are using Hugging Face's powerful transformer models, which are pre-trained on vast amounts of text data.
- Input Data: When user describes their symptoms, our system processes this information. We use NLP techniques to extract key details from the user's description.
- Generating Descriptions: Using the Hugging Face text generation pipeline, we input the extracted symptoms.The model then generates a comprehensive description of the diagnosed skin condition,

Project Schedule

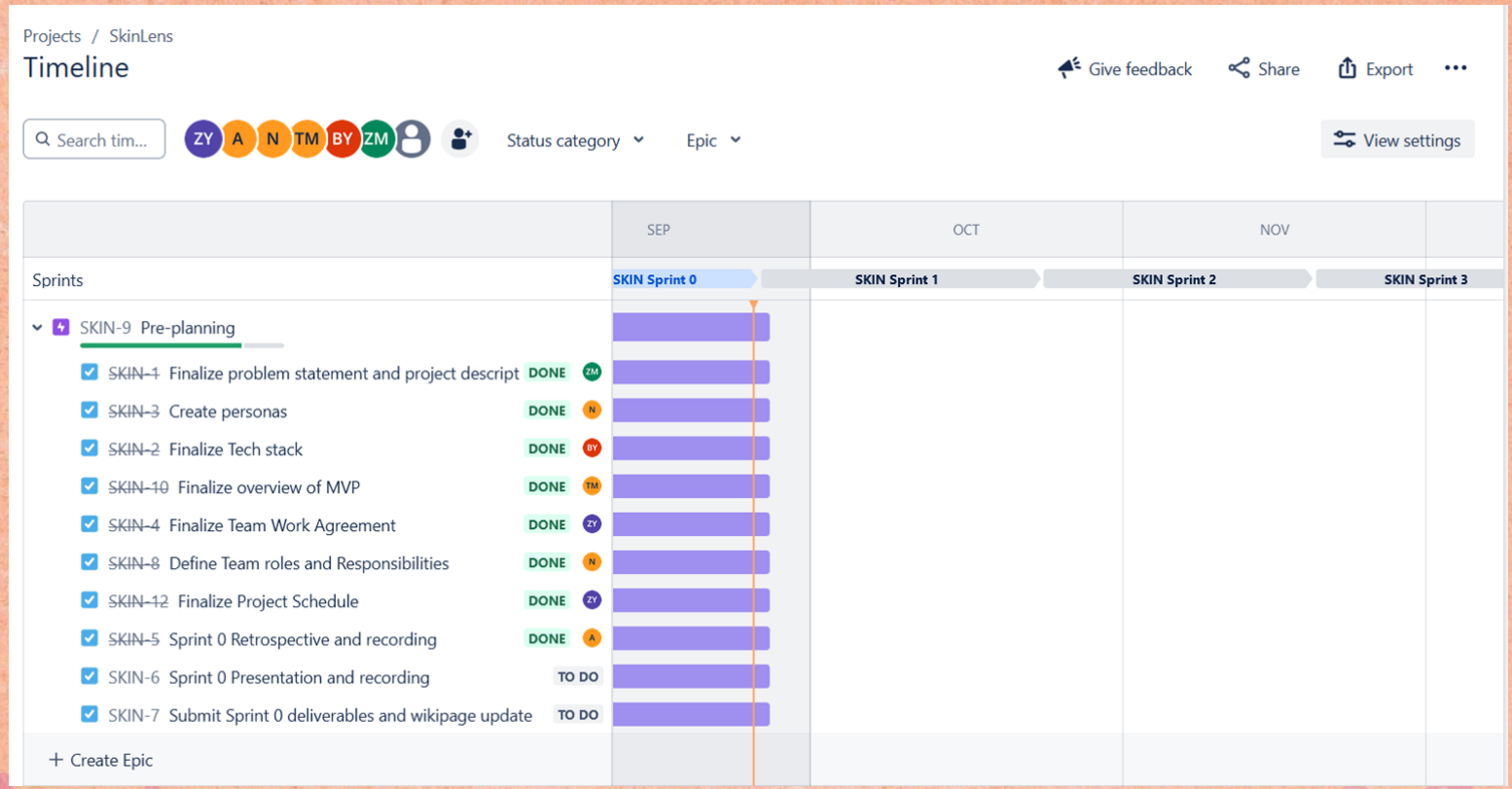
- Sep 6 - Sep 26
- Daily Scrum

- Sep 26 - Oct 24
- Daily Scrum

- Oct 24 - Nov 21
- Daily Scrum

- Nov 21 - Dec 12
- Daily Scrum

Project Schedule



Team Working Agreement

Communication expectations

- All communications will be through Slack.
- Opinions and ideas of all team members will be respected.
- Changes, if any, should be discussed and agreed within the team.
- Conflicts should be focused on issues and not individuals. (Strictly avoid blame game)
- Unresolved conflicts among the team should be reported to the team leader.
- We encourage everyone to express their frustrations and discomfort early.
- Clear understanding and listening to others are the most important things to resolve conflicts.

Meeting structure and frequency

- Meetings will be held via zoom
- Daily scrum at 8pm for 15 minutes.
- A follow-up meeting should be planned after the daily scrum if there are any blockers that can’t be addressed quickly.
- A meeting for Sprint Planning will be planned at the beginning of the Sprint.
- A meeting for Sprint Retrospective will be planned before the Sprint end date.
- Encourage everyone to actively participate in the meeting.
- We will adhere to agreed meeting time and will inform the team of any absences.
- Any changes in the timings will be mutually decided.
- Meeting minutes with objectives and decisions will be recorded in a Google Sheet.
- If you miss a meeting, support decisions made in your absence.
- Scrum Master should host the meeting and control time.

Team Working Agreement

Team norms and values

- Each team member understands their roles and responsibilities.
- We divide tasks transparently and help each other when necessary.
- Each task should have a clear due date and mutually accepted definition of “Done”.
- Each team member takes responsibility for their tasks and for achieving the team's goals.
- Team members should report obstacles immediately if they cannot complete their work on time, and actively contribute to the solution.
- Team members should update their task’s process via Jira before the daily scrum meeting.
- Team members should upload their work to prescribed places like GitHub or Google Drive before the daily scrum meeting.

Continuous Improvement

- Encourage teams to research, learn, come up with new ideas and share with the team.
- We will reflect on areas of improvement during each Sprint Retrospective so that our process is better for the next sprint.

Definition of DONE

- Work has been fully reviewed by another team member/s.
- Code can run and no errors.
- All tests are successfully completed.
- No critical defects.
- Work meets the acceptance criteria.
- Code pushed to GitHub.
- Documentation has been updated.

SPRINT RETROSPECTIVE

SkinLens

What went well

All members are positive to hold and join the meeting +4	All the team members were present in the meetings and had a good bond +3	Efficient communications. +2
Did well in gathering background information of the project +3	Willing to help each others. +2	Every one participated in planning and discussion +1
balancing workload +2	Everyone came up with 1 or more ideas before finalizing project description +3	Tasks assigned were done before the due date +2
The team is active , adaptive and works well across different function +0	In person meetings after every class helped in forming a good bond +1	everyone want to contribute to the project +0
Every is responsible of their work	Mutual respect and support fostered a positive team culture	everyone gave their ideas and raising questions to give our best in the project

What can be improved

too much divergent thinking, not focus on one topic one time during the meeting +3	Getting familiar with the tech stack we are using +4	long daily scrum durations +2
Github links were not accepted by few team members +3	Posting outline or a note after meeting in order to perform better. +1	once the project title was decided not enough research was done to explore ways we can build the project +3
not giving chance to others to speak +5	interrupting while others are talking +2	Please be active in communication, speak up willingly, take up responsibility +3
Listen when others are speaking i the meeting, out of context questions are asked because of this, extending the meeting duration +1	review others' work +0	no proper agenda +3

Action Items

zaid can create a meeting agenda before meeting + create sticky notes +0	zhuowen as scrum manager can faciliatate this: if someone want to speak, he/she can raise the hand or use Zoom's raise hand function +0	Assigned to Pujitha: everyone should speak during the discussion +0
Assigned to every team member: Get familiar with the tech stack before sprint 1 planning +0	Zhuowen can use a stopwatch to control iindividual speak times and overall time +0	Assigned to everyone: Stick to three basic daily scrum questions +0

Assigned to every team member: Get familiar with the tech stack before spr

Few important points from the Retrospective

What went well

- All members Are positive to hold and join the meeting
- Did well in the gathering background information of the project
- Everyone came up with 1 or more ideas before finalizing project description

What can be improved

- Get familiar with the tech stack we are using
- Not giving chance to other to speak
- Too much divergent thinking ,not focus on one topic at one time during the meeting

Action Items

- Zaid can create a meeting agenda before meeting starts
- Zhuowen as scrum master can facilitate this if someone want to speak ,he or she can raise the hand or use the zoom’s raise hand function
- Assign to everyone stick to the three basic daily scrum question

WIKI PAGE LINK

To see our progress

https://github.com/htmw/2024F-Biased/wiki

THANK YOU

TEAM BIASED