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PROBLEM STATEMENT

Diabetic Neuropathy patients experience limitations such as:
- Pain in their limbs
- Numbness
- Increased sensitivity to touch
- Hypoglycemia unawareness
- Drastic Mood changes

They require support to keep track of their health and provide them with a buddy who can assist them in their daily activities.

OUR SOLUTION

- Develop a personalized tracking/recommendation tool for diabetic neuropathy patients to manage their condition.
- Track Activity, Medicine, Blood Sugar, Mood and List of Tasks that the patient must perform to remain healthy.
- Pain relief in the hands and feet through interactive instructions.
- Suggestions to uplift mood through Machine Learning algorithmically personalized to each user.
- The solution has high level UX standards and provides an easy-to-use UI for patients in all age groups.

OUR PROCESS

- We followed the UX Development process (Fig.2)
- We began with requirements engineering
- We researched via interviews.
- We empathized with the users, through user personas and storyboarding (Fig.3)
- The learnings from these steps was employed in the design and user testing iteratively.
- Since usability was a major criteria the design and develop this app, we ensured that we created the designs based on user feedback.

TOOLS AND TECHNOLOGIES

Design: Figma, LucidChart, Miro, Drawio
Technologies: React Native, React Navigation, Firebase, TensorFlow, Expo, Anima

REFERENCES

- https://nodejs.org/en/about/
- https://www.mongodb.com/
- https://firebase.google.com/
- https://reactnavigation.org/
- https://reactnative.dev/
- https://drawio
- https://miro.com/index/
- https://www.lucidchart.com/pages/
- https://www.figma.com/

MIT License has been added to the github repositories:
- https://github.com/kush1198/nero
- https://github.com/kush1198/neuro
- https://guidelines/ios/overview/themes/#//apple_ref/doc/uid/TP40006556

FUTURE WORK

- Improve visual aspect of the app by incorporating more user intuitive elements.
- Provide push notifications to Smart devices to remind users of their tasks.
- Improve predictions by augmenting the Machine learning model.
- Integration with Smart devices such as Apple Watch, Alexa, Google Home.

Fig. 1. High Fidelity Prototype of the Neuro Buddy App; (L-R) Home Screen, Mood Board, Blood Sugar Journal, User Progress

Fig. 2. UX Development Process

Fig. 3. Storyboard

Fig. 4. System Diagram displaying the working of the App.

Fig. 5. High Fidelity Prototype of the Neuro Buddy App; (L-R) Neuro Sense feature, Pain relief exercise in Hands, Feet, Warning notification for users

Fig. 6. High Fidelity Prototype of Apple Watch Interface

Fig. 7. System Diagram displaying the working of the App.