MyNextLvl Website Prototype for Adolescents with Chronic Health Conditions

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MYNEXTLVL WEBSITE PROTOTYPE FOR ADOLESCENTS WITH
CHRONIC HEALTH CONDITIONS

Executive Summary

For adolescents between the ages 12-21 who live with chronic health conditions, it can be difficult to manage and keep track of medications and appointments in addition to finding accurate information and resources based on their condition. The MyNextLvl website prototype aims to provide adolescents who suffer from chronic health conditions with resources, information and reminders for medications, refills and appointments. The primary aim of the research is to improve the website prototype design where adolescents between the ages 12-21 can access resources as well as have access to reminders and appointment notifications. This website prototype will allow adolescents to transition from pediatric to adulthood/adult healthcare and allow them to self-manage their condition by providing them with a space to keep track of their medication and doctor appointment reminders, medication refills, access to low-cost clinics and resources to inform users of their medical conditions. Research will include testing the prototype and implementing changes to improve efficiency and usability. Data collected from research on the MyNextLvl website prototype will determine the components on the new prototype that will be created based on user feedback to meet user expectations. The final website prototype is expected to be user-friendly and efficient with a 0% error rate.

Introduction

While missing a few doses of medication occasionally can be a common mistake, it can be a dangerous one with important medications. "Poor medication adherence is a common problem for heart failure patients, a recent Journal of the American Heart Association report found. As a result, these patients may experience increased heart failure symptoms and reduced physical function" placing patients at a higher risk for hospital admission or even death (Gleeson, 2018). "It is estimated that in 2019 there were over 2.7 billion smartphone users and around 1.4 billion tablet owners worldwide" explaining the shift in users gravitating towards reminder technology (Porter, Huggins, Truby, & Collins, 2016). To remember to take medication, many adolescents are often reminded to take their medication by their parents or friends in addition to using technology such as calendars, tracker apps and setting alarms. To keep track of medication, refills, and appointment reminders, the MyNextLvl website prototype was created to keep all patient's information in one place to help adolescents who struggle to remember important dates relating to their medication or doctors' appointments. The MyNextLvl website prototype, tailored to adolescents with chronic health issues between the ages of 12-21, was built over an 8-week period and provides adolescents with medication, refill and appointment reminders in addition to providing resources for those with chronic health conditions. Feedback from this project will help create user-friendly technology for adolescents transitioning from pediatric to adulthood/adult healthcare.

Scope

   The goal of the MyNextLvl website prototype project is to create an efficient and user-friendly interface based on the research and data collected where users can access their medication and doctor appointments reminders in addition to having access to resources based on the user's medical condition. The website prototype will have a 0% error rate, by participants completing each task in under 30 seconds, and will be easy to navigate at the end of this research. The project deliverable will be a prototype and will not store the user's log in or other information entered. The project will be able to accomplish everything on the provided task list.

Research Question

The research question for this project, 'how to create a strong user-centered website prototype to provide resources for adolescents with chronic health conditions', will be acknowledged by conducting research on the MyNextLvl website prototype. The research will determine how likely the user will be to use this resource as they transition from pediatric to adulthood/adult healthcare. The study methods will determine the new design of the MyNextLvl website prototype for adolescents with chronic health conditions. This research question will be answered by analyzing research methods used in the study. The study will contain mixed methods to collect both qualitative and quantitative data. The qualitative data will be analyzed to gain in-depth insight into the users experience while using the website prototype. The quantitative data will be analyzed to establish general facts as users explore the website prototype. In the survey questionnaire, both qualitative and quantitative data will be collected from volunteers to determine their experience on the website prototype. The usability test will provide qualitative data as users complete tasks from the given task list and provide opinions on the website prototype. For adolescents struggling with a chronic health condition, it is important to have access to credible and reliable information when online. Combining reliable information with a space to manage and organize medications and appointments will allow for positive feedback on the website prototype.

Proposed Research Methodology

The qualitative research will be done mostly through usability testing with a given task list in addition to a list of 20 survey questions. Quantitative research will be gathered from some of the survey questions. The mixed methods will allow for the delivery of deeper insights into the research and will allow for the results to be compared to determine the best outcome.

The usability testing helps determine areas of struggle that the user experiences with the website prototype when completing the given tasks. When analyzing the users testing experience, data will determine where the website prototype will be improved on and where the prototype can stay consistent. The data will also be used to change or replace items on the prototype to deliver the best outcome. The survey data will be used to determine where the website prototype will improve in addition to gathering opinions about the overall appearance of the website prototype.

When using the website prototype, users are able access the navigation bar in addition to being able to create or log into an account. When logged in, users can manipulate reminder information in addition to the personal information provided. Users will also be able to view resources near them such as free or low-cost clinics and will have access to trusted information on their health condition.

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Proposed Data Collection Instrument

The type of data collection methods that will be used will be usability testing with a given

task list, and surveys. The usability testing will be conducted through Zoom, where the user will

be given a list of tasks to complete while being observed. The tasks will include the following:

1. Amy wants to create an account with her email: Amy12345@gmail.com and wants to set her password as: Mynextlvl123
2. Amy wants to log out and log back in with her new account.
3. After logging in, Amy wants to add a reminder for her albuterol medication for Sunday at 11 AM without entering dosage or refill reminder.
4. Amy wants to learn about her medical condition, asthma.
5. Amy wants to learn what resources are available in Dekalb County for Asthma.
6. Amy wants to delete her doctor's appointment reminder for Dr. Shaw.
7. Amy wants to add a doctor's appointment reminder for Dr. Smith on Monday at 3:00 PM.
8. Amy wants to delete a medication reminder for Zolpidem.
9. Amy wants to add fish, an allergy, to her user profile.
10. Amy wants to change her specialist's phone number to (444) 444 - 4444.
11. Amy wants to edit her emergency contact from mother to father.
12. Amy wants to go over the HIPPA Regulations.

The Zoom meeting may be recorded if the user allows, and notes will be taken as users complete

each task. Tasks range from logging in to an account given username and password to exploring

different features of the website prototype to determine how easily accessible they are to the

user. The surveys will be completed through Surveymonkey.com, where users will answer

questions relating to the prototype such as:

1. What specifically appeals to you about the website prototype?
2. How do you feel about the layout of the website prototype?
3. How do you find the MyNextLvl prototype layout over other reminder applications?
4. How difficult or easy is it for you to edit your medication reminders when logged in?
5. Do you feel as though you can easily edit and remove your reminders on the MyNextLvl prototype website?
6. When logged in, how easy or difficult is it for you to edit your information under the 'view my information' tab?
7. Do you use any medication or appointment reminder technology to remind you to take your medication? If so, what is a feature that you would like to see on the prototype website?

8. If you use reminder technology, what technology do you use and what does the technology lack?
9. When clicking on each navigation tab, is the outcome what you would expect?
10. What do you think as you view the 'contact us' page?
11. What do you think as you view the 'resources' page?
12. Do you find it easier to use an application that has all your reminders in one place?
13. Do you feel as though the MyNextLvl prototype website has increased your knowledge of your medical condition?
14. Do you feel that the MyNextLvl prototype website has helped you gain access to more available resources?
15. Can you walk me through how you would sign up on the prototype?
16. What did you think about the sign-up process?
17. Which functions or features of the prototype are necessary to have instead of nice to have?
18. If looking for a quick answer, where would you search?
19. What do you find frustrating about the prototype?
20. What is something that the MyNextLvl prototype website can improve on?

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Project Planning Report

Task	Start	End	Status
Planning			
Project Proposal	09/22/22	11/03/22	Complete
Project Scope	10/19/22	10/24/22	Complete
Success Measurements	10/19/22	10/24/22	Complete
Design			
Stakeholder Map	08/28/22	08/20/22	Complete
Scenarios & Task Analysis	08/28/22	10/29/22	Complete
Story Board	08/28/22	10/29/22	Complete
Site Structure	08/29/22	10/29/22	Complete
Pencil & Paper Prototype	08/28/22	08/31/22	Complete
Wireframe	08/31/22	09/02/22	Complete
Task List	09/22/22	10/22/22	Complete
Survey Questions	09/22/22	10/22/22	Complete
Entity Relationship Diagram	09/22/22	10/24/22	Complete
Development			
Interactive Prototype	09/02/22	10/01/22	Complete
Testing (Survey & Task List)	11/03/22	11/20/22	In Progress
Deliverable			
Refined Prototype	11/03/22	12/02/22	In Progress
Final Report	11/03/22	12/08/22	In Progress

The project was planned according to the timeline above, which demonstrates the project progress since the project has started. The timeline demonstrates when each task has been started and when each task will be completed. The major deliverables from the project will be the final report and the revised final website prototype. The final revised website prototype is dependent on the data collected from the research and will be completed according to the timeline. Tasks are updated each week to ensure that the project is on track and developed successfully.

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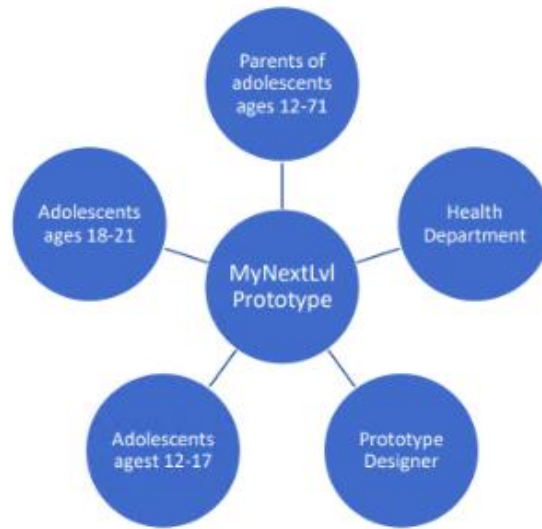
Above is the stakeholder map for the website prototype. The stakeholder map is designed to determine which features the website prototype will need for the prototype design. As presented in the stakeholder map, the role of parents of adolescents between the ages 12-17 is to provide consent for their child to use the prototype and to monitor their child's activity on the prototype. The role adolescents between the ages 12-17 is to view and keep up with reminders and refills with the supervision of an adult, in addition to being able to modify their information. The role adolescents between the ages 18-21 is to view and keep up with reminders and refills in addition to being able to modify their information on their own. The prototype designer is me, and my role is to ensure that users can have easy access to their information and can use the prototype efficiently with no errors. Lastly, the health department includes pharmacies, doctors and specialists, and they play a role in the prototype because their information is used to alert users of reminders regarding appointments and refills.

The scenario, task list and storyboard were generated next to demonstrate possible tasks the users may accomplish on the website prototype. This helped to create the site structure, presented below.

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MyNextLvl

Home
- About MyNextLvl

My Account

Sign Up
- Log In info
- HIPPA Agreement
- Personal Info
- Med/Allergy Info
- Dr/Insurance info
- Emergency contact

Log In
- Home
- View My Information
- Edit Dr Reminder
- Edit Med Reminder
- HIPPA Regulations

Medical Conditions
- Home
- Asthma
- Diabetes
- Seizures
- Hyperthyroidism
- Hypothyroidism
- Sickle Cell Anemia
- Cystic Fibrosis
- Gastrointesticanl Disorder

Resources
- Home
- General Support
- Asthma
- Autism
- Cancer
- Cystic Fibrosis
- Diabetes
- Down Syndrome
- Gastrointestinal Disorder
- Hearing
- Sickle Cell
- Kidney
- Skin
- Neurological
- Vision

Contact Us
- Search Option
- HIPPA Regulations
- FAQ
- Contact Form

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The site structure demonstrates how the prototype's content will be grouped, linked and presented to the user. 'Home', 'My Account', 'Medical Conditions', 'Resources' and 'Contact Us' are the main navigation options when the user first accesses the prototype. The 'Home' tab will provide a small description of the prototype and the goals of the prototype. The 'My Account' tab will allow users to sign up or log in. If users wish to sign up, they will navigate the 'Sign Up' tab, where they will enter their username and password, agree to HIPPA Regulations, enter their personal information, enter their doctor information, and lastly, their emergency contact information. If users wish to log in, or have already logged in, they will use the 'Log in' navigation and will be able to have an overview of their reminders in the 'Home' tab and will be able to view or edit their information, doctor reminders, and medication reminders in addition to having access to their HIPPA agreement in the following tabs. The 'Medical Conditions' tab will allow users to view information on the medical conditions listed in the subcategories. The 'Resources' tab will allow users to view resources such as low-cost clinics in Dekalb county, depending on the subcategory options. The 'Contact Us' tab will allow users to search for a specific keyword within the prototype and will have the HIPPA Regulations as well as Frequently Asked Questions and a way for users to contact the site owner with questions.

The creation of the paper and pencil prototype was next generated from the site structure and provided a guideline for the wireframe prototype. Some improvements from the paper and pencil prototype to the wireframe prototype include the 'About Us' tab changed to the 'Home' tab and the addition for a 'Medical Conditions' tab. The set up was also completely changed in the 'My Account' tab in the wireframe prototype for both sign up and log in to allow for more detail and easier navigation. More detail was also added to the 'Resources' and 'Contact Us' tab in the wireframe prototype so that users would be able to find resources based on a specific

condition and to find help easier. The wireframe prototype then allowed for the creation of the

interactive prototype. Color was added to the interactive prototype, whereas the wireframe

prototype contained little color. The sign in page was upgraded to allow users to sign in via their

social media or google account in addition to being able to use their username and password in

the interactive prototype, whereas in the wireframe, users are only given the general username

and password sign in option. In the sign-up page, users are required agree to the HIPPA

Regulations before entering their doctors and medication information, whereas in the wireframe

prototype, users may skip entering their information and are required to accept the HIPPA

Regulations at the end of their sign-up process. When logged in, users were presented with a

small calendar which included their reminders in the wireframe prototype, and in the interactive

prototype users are able to view their reminders weekly, allowing for a less confusing layout.

The process of editing personal information and reminders has also been made simpler in the

interactive prototype, while the resources, medical conditions and contact us pages remain

similar.

After the creation of the interactive prototype, an entity relationship diagram was created

to determine the information system requirements as presented below:

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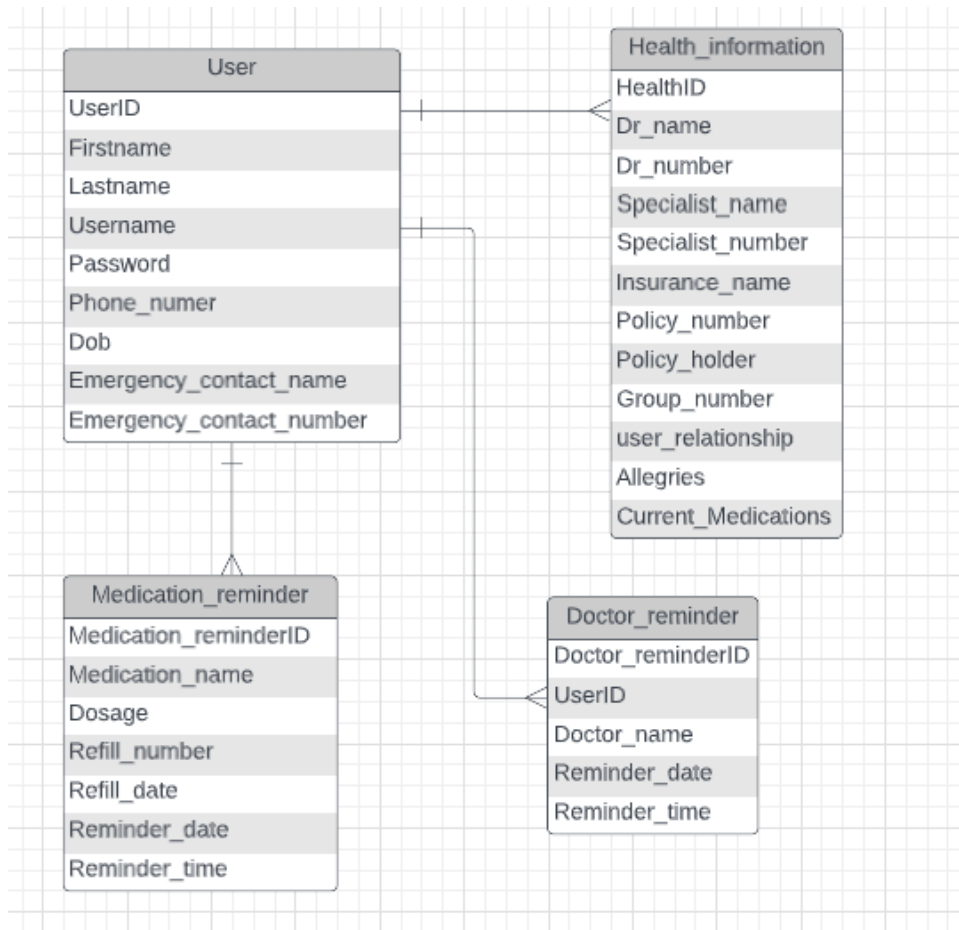
The Entity Relationship diagram demonstrates how information would be stored from the website prototype. The 'user' table contains the user's personal information from their login information to emergency contact information and has a one-to-many relationship with the 'medication_reminder', 'doctor_reminder' and 'health_information' tables, where the user is able to have multiple medication reminders, multiple doctor reminders and multiple doctors and specialists entered from their profile page.

After the testing has been completed and data has been collected, the final prototype will be created to complete the project.

References

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