Addressing healthcare accessability through design thinking

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Introduction

In today's rapidly evolving world, advancements in technology have paved the way for numerous innovations across various industries. One crucial area where technology has the potential to make a significant impact is healthcare. However, despite the progress made in medical science, many individuals, especially our whole region KRG for instance, still face challenges in accessing timely and accurate diagnosis and treatment for issues regarding their health. This is particularly true when it comes to identifying the root cause of a problem within the body and connecting with the right healthcare professionals (doctors) to address it effectively, as seen here in our region. The journey of navigating through the healthcare system can often be overwhelming. Patients may find themselves struggling with locating appropriate and diligent specialists due to their limited access, long wait times, and a lack of personalized care. These challenges not only create frustration and exaspereration, but also contribute to delays in diagnosis and treatment, leading to potential dangerous outcomes for patients Recognizing the pressing need to bridge this gap and make healthcare more accessible and efficient, our team embarked on a journey guided by the principles of design thinking. Design thinking is a human-centered approach that emphasizes empathy, creativity, and iterative problem-solving. It empowers teams to understand the needs and experiences of users deeply, define the problem accurately, generate innovative ideas, prototype solutions, and test them in real-world scenarios. Our focus is on addressing the fundamental issue of difficulty in finding the cause of health problems and connecting with suitable healthcare providers. Through a process of empathetic research and collaborative ideation, we identified key pain points faced by individuals seeking medical assistance. These pain points range from confusion about symptoms to challenges in finding suitable specialists, scheduling appointments and receiving timely feedback on test results. With a clear understanding of the problem landscape, we decided to start on the design and development of a software prototype aimed at streamlining the healthcare journey for patients. This prototype leverages cutting-edge technologies such as artificial intelligence, data analytics, and user-friendly interfaces to create a seamless and personalized experience for users. In the following sections of this report, we will delve into each phase of our design thinking process, starting with

empathizing with the users to gain insights into their experiences and needs. We will then move on to defining the problem statement based on our findings and research, ideating innovative solutions, prototyping our software solution, and finally, deploying it for real-world testing and feedback. Through this comprehensive approach, we aim to not only address the immediate challenges faced by individuals in our community in accessing healthcare but also contribute to a larger vision of a more inclusive and efficient healthcare system. Our journey is driven by a passion for making a meaningful impact on people's lives and empowering them to take control of their health journey with confidence and ease.

Empathy: Understanding the User Experience

Empathy is the cornerstone of any successful design thinking process. It involves putting ourselves in the shoes of the users, understanding their experiences, emotions, and needs deeply. In our journey to develop a solution for healthcare accessibility, we began by conducting empathetic research to gain valuable insights into the problems individuals go through when seeking medical assistance. Our first step in the empathy phase was to engage directly with potential users through interactions, interviews, conversations, and dialogues, which proved to be our greatest helping point from experience of living the same reality as them in the same environment. As a result of having listened attentively to their stories, frustrations, and worries regarding their healthcare. This process allowed us to find common pain points shared by many, such as confusion about symptoms and inability to find the correct cause, difficulty in scheduling appointments, and poor communication with healthcare providers and failing to deliver the point forward properly due to shortcomings in terms of knowing about and awareness of one's state. One key aspect of our empathetic approach was to recognize the diversity of experience within

our user group. We interacted with individuals from different socioeconomic backgrounds, and health conditions to ensure that our solution would be inclusive and accessible to all. This inclusive mindset guided our research efforts and helped us uncover nuanced insights that shaped our understanding of the problem landscape. Through empathy, we gained a

deeper appreciation for the emotional rollercoaster that accompanies health-related problems. We empathized with the anxiety of being unable to find appropriate healthcare providers, waiting for test results, the frustration of navigating complex healthcare systems, and the relief of finally receiving accurate diagnosis and effective treatment. These emotional connections fueled our determination to create a solution that would alleviate these burdens, int the end encouraging and empowering users to take control of their health state. In summary, the empathy phase was essential in grounding our design process in the real experiences and needs of our users. It provided us with a solid foundation of empathy-driven insights that would inform every subsequent step of our journey towards developing a user-centered healthcare solution

Define: Clarifying the Problem Statement

After immersing ourselves in the user experience through empathetic research, the next step in our design thinking journey is to define the problem statement clearly and concisely. The Define phase is crucial as it sets the direction for ideation and solution development, ensuring that our efforts are focused on addressing the most pressing needs of our users. In the Define phase, we meticulously and carefully analyzed the insights gathered during the empathy stage to identify recurring themes, pain points, and opportunities for improvement. We went through the rich data obtained from various interactions, user interviews, conversations, and dialogues to distill key problems faced by individuals in accessing healthcare services. One of the primary outcomes of the Define phase was crafting a user persona that encapsulated the characteristics, goals, and pain points of our target audience. This persona served as a guiding light throughout the design process, keeping us grounded in the realities and aspirations of the people we aimed to serve. Additionally, we formulated a problem statement that succinctly (i.e. briefly and clearly) articulated the core issue we sought to address. This problem statement was not just a description of symptoms but a deep-rooted understanding of the underlying problems faced by users. It provided clarity and direction to our ideation efforts, ensuring that we stayed focused on solving the right problems in the right way. Furthermore, the Define phase involved mapping out the user journey to visualize the various touchpoints and interactions users have within the healthcare system. This journey map helped us identify pain points, bottlenecks, and opportunities for intervention, enabling us to design a more seamless and user-friendly experience. In essence, the Define phase was about

distilling complexity into clarity. It allowed us to transform a myriad of user insights into a well-defined problem statement, user persona, and journey map that would guide our ideation and prototyping efforts. By defining the problem with precision, we

laid a solid foundation for creating an impactful and user-centered solution to improve healthcare accessibility.

Ideate: Generating Innovative Solutions

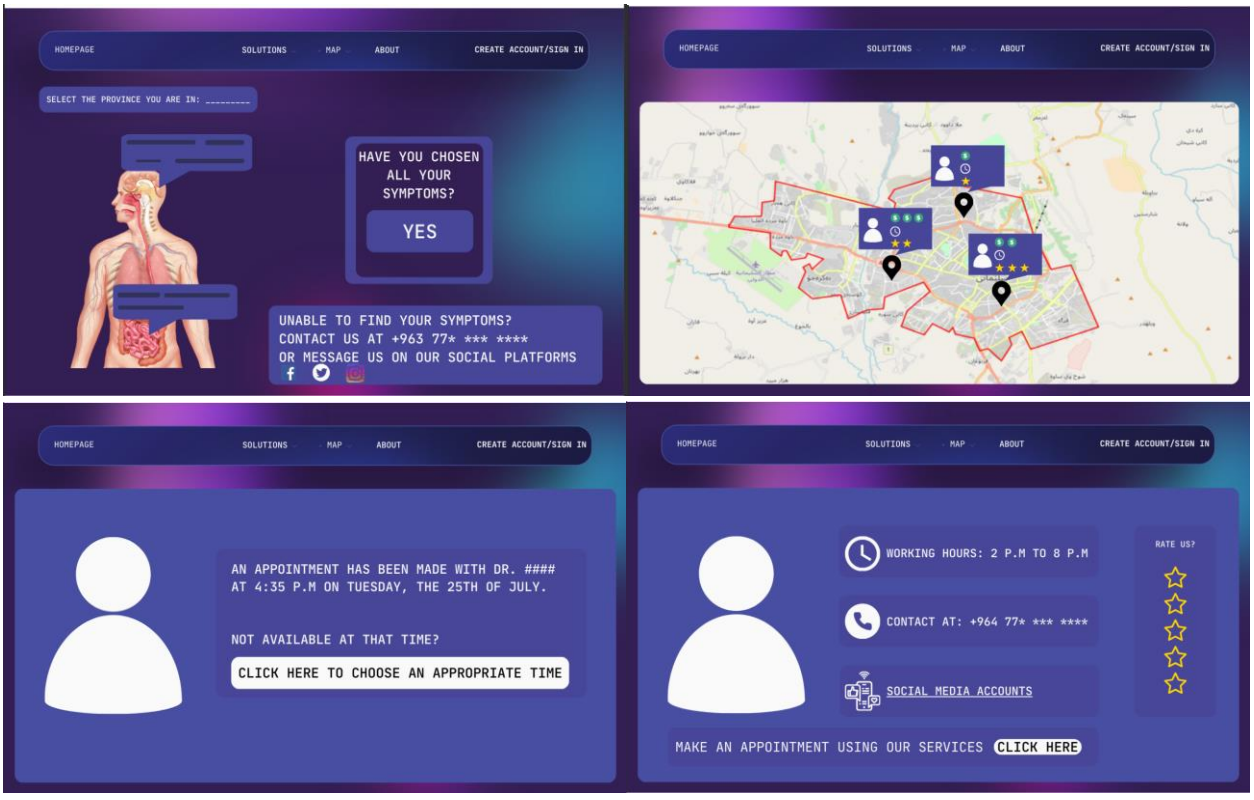
With a clear problem statement defined and a deep understanding of the user experience gained through empathy, our design thinking journey enters the ideation phase. Ideation, or generally brainstorming, is where creativity flourishes, and diverse perspectives come together to generate innovative solutions to the identified problem. During the ideation phase, our team engaged in brainstorming sessions and collaborative discussions to explore a wide range of ideas and concepts. We encouraged a culture of open-mindedness and creativity, welcoming all ideas without judgment to create a fertile ground for innovation. One of the key techniques we employed during ideation was divergent thinking, which involves generating a multitude of ideas, no matter how wild or unconventional they may seem. This process allowed us to break free from conventional thinking patterns and explore novel approaches to solving the problem at hand. Another crucial aspect of ideation was incorporating diverse perspectives, opinions from different viewpoints and experiences within our team as we all had different backgrounds and lives that we have led. We leveraged the strengths and unique insights of each team member to fuel our ideation process with a rich tapestry of ideas. To structure our ideation efforts, we used tools such as mind maps, idea boards, and concept sketches to visually represent and organize our ideas. This helped us identify essential points, common themes, connections between ideas, and potential areas of synergy that could lead to innovative solutions. Furthermore, we embraced the principle of "Yes, and..." during ideation, building upon each other's ideas and expanding possibilities rather than shutting down ideas prematurely. This collaborative and iterative approach allowed us to explore a wide spectrum of solutions and refine them based on feedback, insights and experiences gained along the way. In summary, the ideation phase was a creative and dynamic process of generating and refining ideas to address the identified problem of healthcare accessibility. It was characterized by open-mindedness, collaboration, teamwork and a willingness to explore unconventional paths to innovation. The ideation phase set the stage for the next step in

our design thinking journey: prototyping and bringing our ideas to life for testing and deployment.

Revolutionizing Healthcare Access:

Prototyping and Testing a User-Centered

Solution



And this is the prototype for the solution of our problem. When you first open up the website, you are greeted with this window, where you will have a diagram of a human body with many diseases and problems to choose from, depending on where exactly on the body you click. You are also told to choose the province you reside in, to show the correct map of the city or area you are in. If you are unable to find the symptoms/diseases you have, you could talk with a live operator on the phone, or message them through social media, where they would tell you where to go. If you didn't have any problems choosing your symptoms, you would be redirected to a map of the city/ province you chose, with waypoints showing the doctors recommended to you, along with little profiles on them showing how expensive they are, their availability, and ratings from other users to give you a sense of how good they are. After you choose a doctor, you would be once again redirected to another page where

more information would be displayed, such as the times they are available for the day, their contact info if you want to make a manual reservation, their social media accounts, and also an option to automatically make an appointment using the website. You could also rate the website for the services given on this page. If you choose to make an automatic appointment, you will be shown another screen which shows the

exact time of the appointment, and also an option to reschedule, if you do not have the time or are busy at the time of the appointment. Next, is the topic of testing our

website, which we will discuss by giving two scenarios. In the first scenario is Patient A: Patient A wakes up sick and vomits a couple of times, as such he goes to the hospital, where he gets tested, but it just so happens that the hospital he is in doesn't have any doctors that could treat him, and by the time he finds a doctor who is able to, it is already too late and he has suffered permanent damage. In the second scenario is Patient B: Patient B wakes up with the same symptoms of Patient A, but this time, he uses the website to input the problems he's having, and gets a quick recommendation, and makes an appointment, with a doctor who could help him, suffering no permanent damages in the process.

Conclusion

In summary, our article specifies the transformative role of smart devices in enhancing public healthcare services. Through this innovative program, users can effortlessly find the cause of certain symptoms they have been afflicted with, access information

about specialized healthcare providers, locate the nearest health centers, and obtain details regarding appointment timings and consultation fees. By leveraging technology to streamline healthcare access, we aim to empower individuals with the knowledge and resources they need to make informed decisions about their health.