Project Proposal: Oral Health Diagnosis and Medication Prescriber

Siddhesh Chavan, Adarsh Viswanath, Anas Zain, Asha Chirumamilla, Maheshwar Vangapaty, Srihari Myla Venkata

Background:

This project aims to address the increasing dental health issues that have surged lately. A major factor is consumption of sugary foods, along with inadequate oral hygiene habits among many people. These problems disproportionately impact younger and older adults, who tend to be more vulnerable to dental problems overall. The goal is to find solutions that can reverse this trend by promoting proper diet and oral care practices, especially for young adults.

The problem that this project aims to address is two-fold:

Rising Dental Health Issues: Dental problems like tooth decay, gum infections, and abrasions are more common due to the rise in the intake of sugary foods and beverages and the prevalence of poor oral hygiene habits. These problems cause overall discomfort and suffering in people, especially older individuals.

Access to Dental Care: Many individuals, especially the young populous, may face challenges in accessing timely dental care due to various reasons such as busy lifestyle, lack of knowledge pertaining to oral hygiene or a lack of dental facilities in their vicinity. This can result in delayed diagnosis and treatment, exacerbating their dental health problem.

Objective:

- **Project Objective:** To develop a dental care app which will address challenges related to increasing dental problems and improve access to dental healthcare.
- **Remote Diagnosis:** Users can obtain a preliminary dental diagnosis by answering a set of questions related to their dental health. This feature allows for quick assessment without immediate physical appointments.
- **Image Upload:** Users can upload pictures of their dental issues when a visual assessment is needed. This enhances the accuracy of diagnosis and treatment recommendations.
- **Medication and Recommendations:** Following diagnosis, the application provides users with recommended medication and oral care instructions. This empowers users to take proactive steps in managing their dental health.

Smile ℞
09-15-2023

Project Proposal: Oral Health Diagnosis and Medication Prescriber
Siddhesh Chavan, Adarsh Viswanath, Anas Zain, Asha Chirumamilla, Maheshwar Vangapaty, Srihari Myla Venkata

- **Target Audience:** Primarily aimed at older adults who are more susceptible to dental health issues due to factors like sugary product consumption and poor oral hygiene.
- **Technological Innovation:** Leveraging technology to offer remote dental care solutions, reducing barriers to access dental healthcare.
- **Convenience:** Provides a convenient and efficient way for users to address dental issues promptly.
- **Improved Oral Health:** The project seeks to enhance overall oral health and quality of life for its users, particularly among the older adult population.

Scope:

The scope and outcome of the dental care project is a user-friendly AI based mobile app as well as web application that empowers users, especially older adults, to assess their dental health, receive personalized diagnoses, recommendations, and access medication. This accessible and convenient platform aims to improve overall dental health, reduce discomfort, bridge healthcare disparities, and enhance users' quality of life. Furthermore, user feedback and data may inform future improvements and expansions.

Timeframe:

	Description of Work	Start and End Dates
Phase One	**Initiation phase** - Defined project objective and goal Identify The stakeholders and clients have meetings with clients. - Requirements gathered from different medical professionals. - Present the gathered information to the IT team. - Discuss the schedule and budget of the project. - Discuss PHI and HIPPA policies. - Identify and mitigate risk associated with the plan - Get final approval from the stakeholders	14 SEP 2023- 02 OCT 2023

Project Proposal: Oral Health Diagnosis and Medication Prescriber
Siddhesh Chavan, Adarsh Viswanath, Anas Zain, Asha Chirumamilla, Maheshwar Vangapaty,
Srihari Myla Venkata

Phase Two	**Application development and Implementation** • Application system development and Implementation • System Architecture Design • Database and user interface design • Data Training and documentation • Medical question integration • Backend and frontend Development • Security and Compliance setup • Maintain electronic Health Record (EHR) • Performance optimization	03 OCT 2023 – 16 NOV 2023
Phase Three	**Closing phase** • Application testing • User Acceptance Testing	17 NOV 2023 – 04 DEC 2023

Project Budget:

	Description of Work	Anticipated Costs ($)
Phase One	Project Initiation • Foregathering team • Expressing and sharing ideas • Finalizing specific topic planning (risk, scope) • Originating project plan • Procure appropriate research data from articles addressing dental issues	10000
Phase Two	Execution and Development • Assimilate acquired dental data • Build the application	75000

Project Proposal: Oral Health Diagnosis and Medication Prescriber
Siddhesh Chavan, Adarsh Viswanath, Anas Zain, Asha Chirumamilla, Maheshwar Vangapaty,
Srihari Myla Venkata

	• Launch beta version
	Control and Monitoring
	   • Certify the application clinically
	   • Develop marketing strategies	

Phase Three	App Launch and Testing
	   • Launch application
	   • Application Testing
	   • Provide user support
	   • Obtain feedback
	   • Provide long-term support through continuous monitoring
		30000

	Total	$ 115000.00

Key Stakeholders

Client	US Dental Association
Sponsor	IU School of Dentistry
Project manager	Siddhesh Chavan

Project Proposal: Oral Health Diagnosis and Medication Prescriber
Siddhesh Chavan, Adarsh Viswanath, Anas Zain, Asha Chirumamilla, Maheshwar Vangapaty, Srihari Myla Venkata

Monitoring and Evaluation:

Monitoring and evaluating the dental care app project will include tracking user engagement, assessing diagnostic accuracy, and gathering feedback. The plan is to measure health outcomes, adherence to recommendations, and accessibility. Data security and privacy compliance will be maintained, and the app will adapt to user needs. Additionally, in the future, the app will use AI not only to leverage past patient data to provide more personalized but also effective treatment plans, further enhancing its impact on dental health and quality of life.

Approval Signatures

US Dental Association	IU School of dentistry	Siddhesh Chavan
Project Client	Project Sponsor	Project Manager