

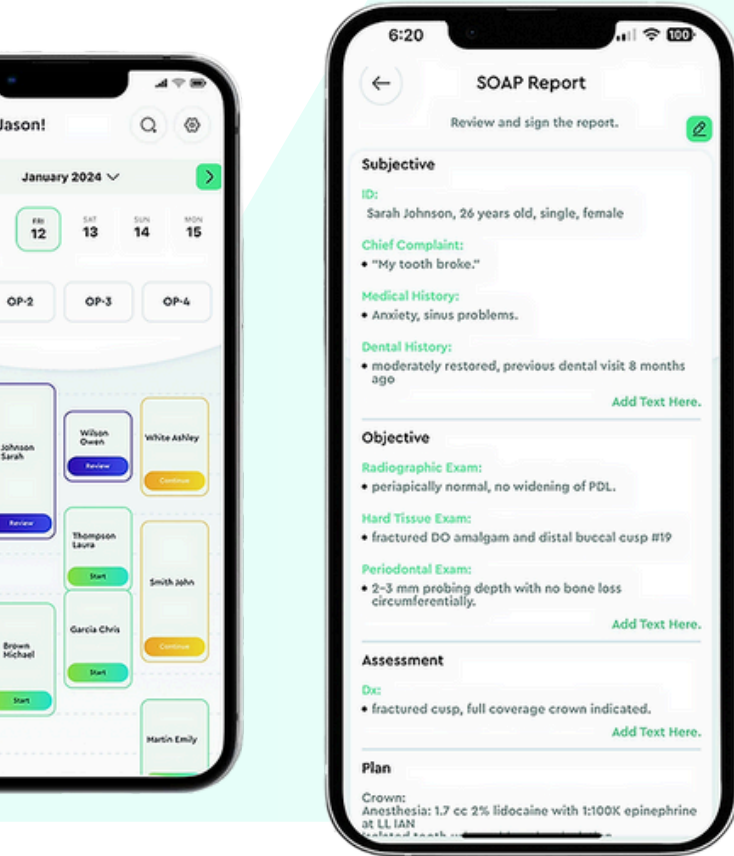


THINKSYS

From Hours to Minutes: How DentScribe Transformed SOAP Reporting for Dentists?



■ About the Client



SuhaviAI Inc. is dedicated to revolutionizing the healthcare industry with AI and automation, aiming to provide specialized software to healthcare professionals to streamline their practice.

Their commitment to innovation led them to partner with ThinkSys to create DentScribe, exemplifying their vision of a more efficient application for dentists.

■ SuhaviAI's Vision

Dentists rely on comprehensive Subjective, Objective, Assessment, Plan (SOAP) reports to document patient interactions, diagnoses, and treatment plans. Manually creating these reports is time-consuming, typically taking 40-45 minutes per patient and often requiring the assistance of a dedicated staff member.

Recognizing the need for efficiency and automation, SuhaviAI approached ThinkSys with the vision of developing an AI-powered solution specifically for dentists. Their goal was to create an application that could seamlessly transcribe and analyze audio recordings of patient conversations, generating accurate and detailed SOAP reports, thereby saving valuable time and resources.



The DentScribe Workflow

Based on the SuhaviAI's requirement, ThinkSys developed DentScribe, a mobile application leveraging OpenAI's powerful language models to automate SOAP reports. The process unfolds as follows:



01

Audio Upload: Dentists use the DentScribe app to upload audio recordings of patient conversations to a dedicated server securely. This initiates the process of converting spoken words into valuable clinical documentation.

02

Secure Storage and Transcription: The uploaded audio files are stored in an Amazon S3 bucket, ensuring data integrity and availability. OpenAI's Whisper, a state-of-the-art speech recognition model, then transcribes the audio files into accurate text transcripts, capturing the nuances of the patient interaction.

03

Contextual Analysis and SOAP Report Generation: The generated transcript, along with relevant patient procedure codes, is sent to the OpenAI API. OpenAI's language models analyze this information, extracting key details and generating a comprehensive SOAP report tailored to the specific patient encounter. The created report adheres to the standard SOAP format, summarizing subjective complaints, objective findings, assessments, and treatment plans.

04

Review, Refinement, and Integration: Dentists review the AI-generated SOAP report within the DentScribe app, making any necessary edits or adjustments to ensure accuracy and completeness. Once satisfied, dentists digitally sign the report and seamlessly integrate it into their existing Patient Management System (PMS) for future reference and continuity of care.

05

Other Features: Apart from SOAP report creation, other features of this report include an integrated calendar to view upcoming patient visits, detailed patient information, view scheduled procedures, and submit SOAP reports to PMS.

■ Challenges that We Faced

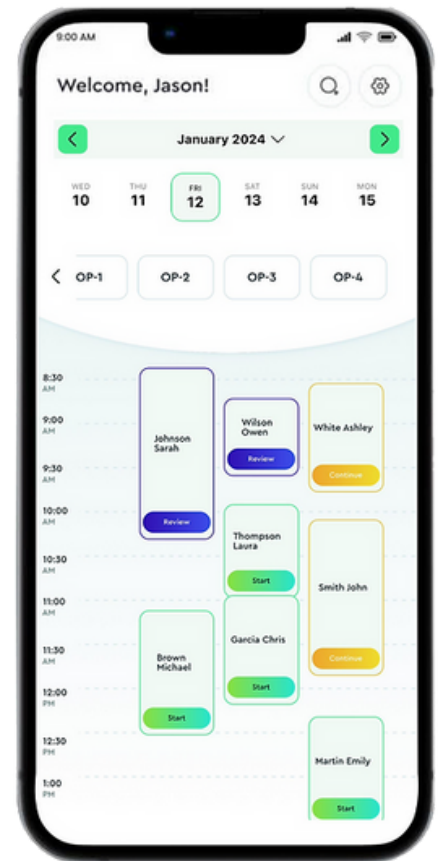
Developing DentScribe presented the ThinkSys team with several challenges, particularly in optimizing the interaction between the app and OpenAI's language models. A significant hurdle was the need for meticulous, prompt engineering. The accuracy and relevance of the generated SOAP reports relied heavily on carefully crafted prompts for each audio conversation.

As OpenAI's models evolved, their responses to prompts sometimes lacked consistency or contained inaccuracies. This required the ThinkSys team to dedicate considerable time and effort to studying and refining the prompts, analyzing the responses, and making iterative adjustments to improve accuracy. The dynamic nature of AI technology necessitated a commitment to continuous improvement, ensuring that DentScribe could consistently deliver accurate and informative SOAP reports despite the evolving nature of OpenAI's language models.



The ThinkSys Team behind DentScribe

- Mobile Application Developers - 2
- Backend Developer – 1
- Frontend Developer – 1
- QA Engineer – 1
- DevOps Specialist – 1



Technologies Utilized

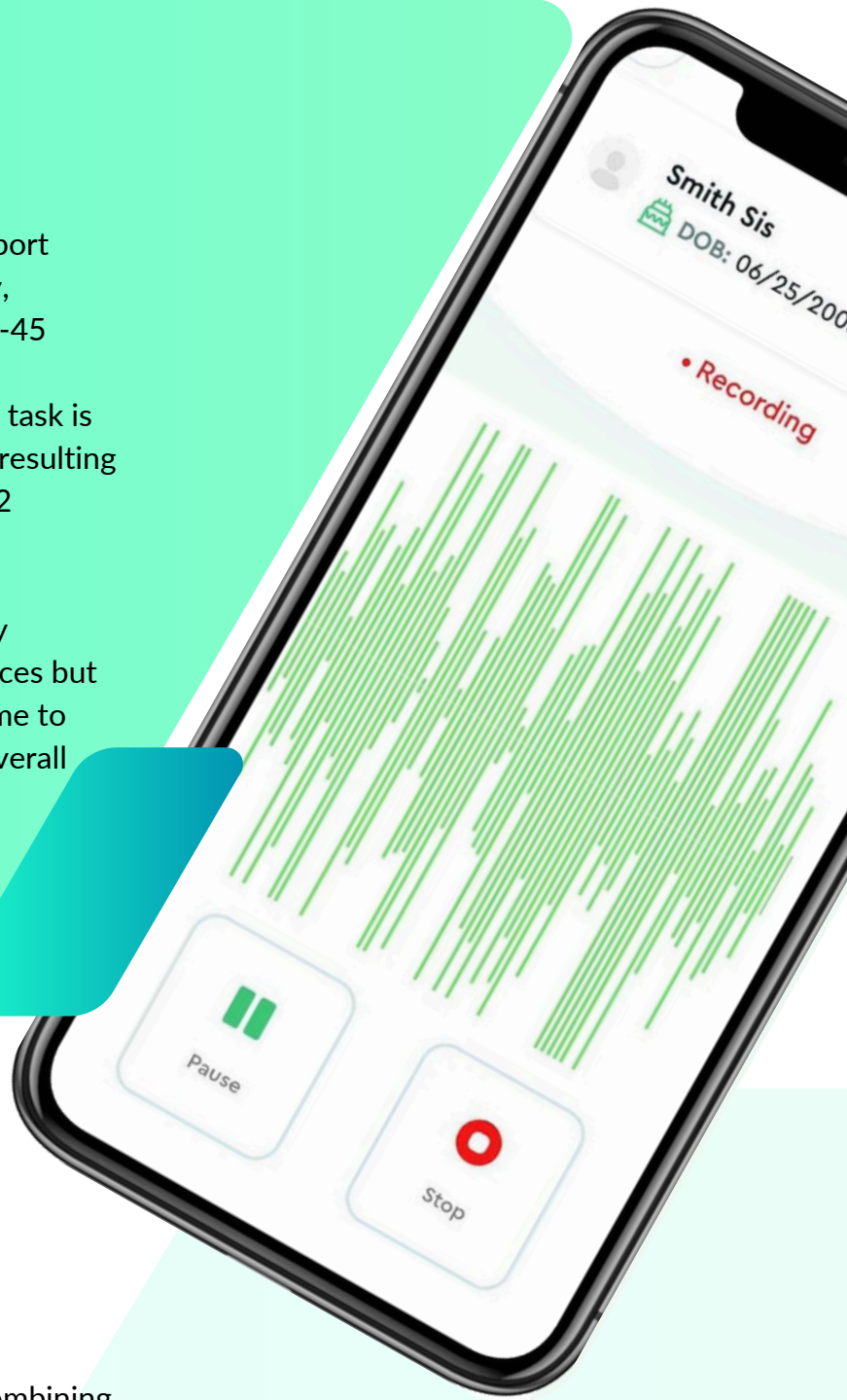
- Visual Studio Code
- Whisper
- Sikka Software
- React Native
- React
- Node.js
- Next.js
- OpenAI
- Amazon S3



Outcome

DentScribe revolutionized the SOAP report creation process for dentists. Previously, generating a single report could take 40-45 minutes of valuable chair time. With DentScribe's streamlined workflow, this task is now condensed to a mere 2-3 minutes, resulting in a staggering time reduction of over 92 percent.

The significant decrease in time not only enhances efficiency within dental practices but also allows dentists to dedicate more time to patient care, ultimately improving the overall quality of service.



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