

Memi

A5: DECO3000 Visual Report

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CONCEPT

Memi

Memi

- TALK -



Feel free to talk with Memi as an AI chatbot, providing reminiscence therapy.

Memi is an app that assists elderly users to positively reflect on the past, to help find like-minded friends they can meet in the future.

Value

- **Accessible** – Cheap and can be used at any time
- **Personalised Therapy** – Programmed to match users with ideal friends depending on keywords generated by individual conversations
- **Strengthen Episodic Memory** – sessions are tailored to explore through both large and small details within memories
- **Boost Confidence Levels** – by validating users feelings , whilst keeping a positive and caring outlook

PROJECT Scope



Australia is currently facing an epidemic of loneliness, which was exacerbated by the COVID-19 pandemic.

This has hit individuals who are 65+ years old the hardest, as their age makes socialising with others more difficult due to reasons such as physical & mental decline, and loss of loved ones. This commonly can lead to mental illnesses such as depression and anxiety (Neves and Sanders, 2020).

Unfortunately, many of these people suffer through these problems in silence as they may:

- Lack resources, such as money, transport and support systems, or,
- Be in denial of their mental state due to fear and stigmas

Because of this, the cycle of loneliness continues on forever for many (De Leo, 2022).

This is why Memi aims to fight back by making these people's voices be heard, recognised and validated, so that they do not have to struggle through their problems alone anymore.

Improve the wellbeing of our users to give them healthier and happier lives.

Build uplifting relationships between users to fight against isolation and loneliness together.

De-stigmatise therapy for older generations by being patient and understanding with users, allowing them to heal at their own pace.

Our Goals



FUNCTIONALITY

Talk Page

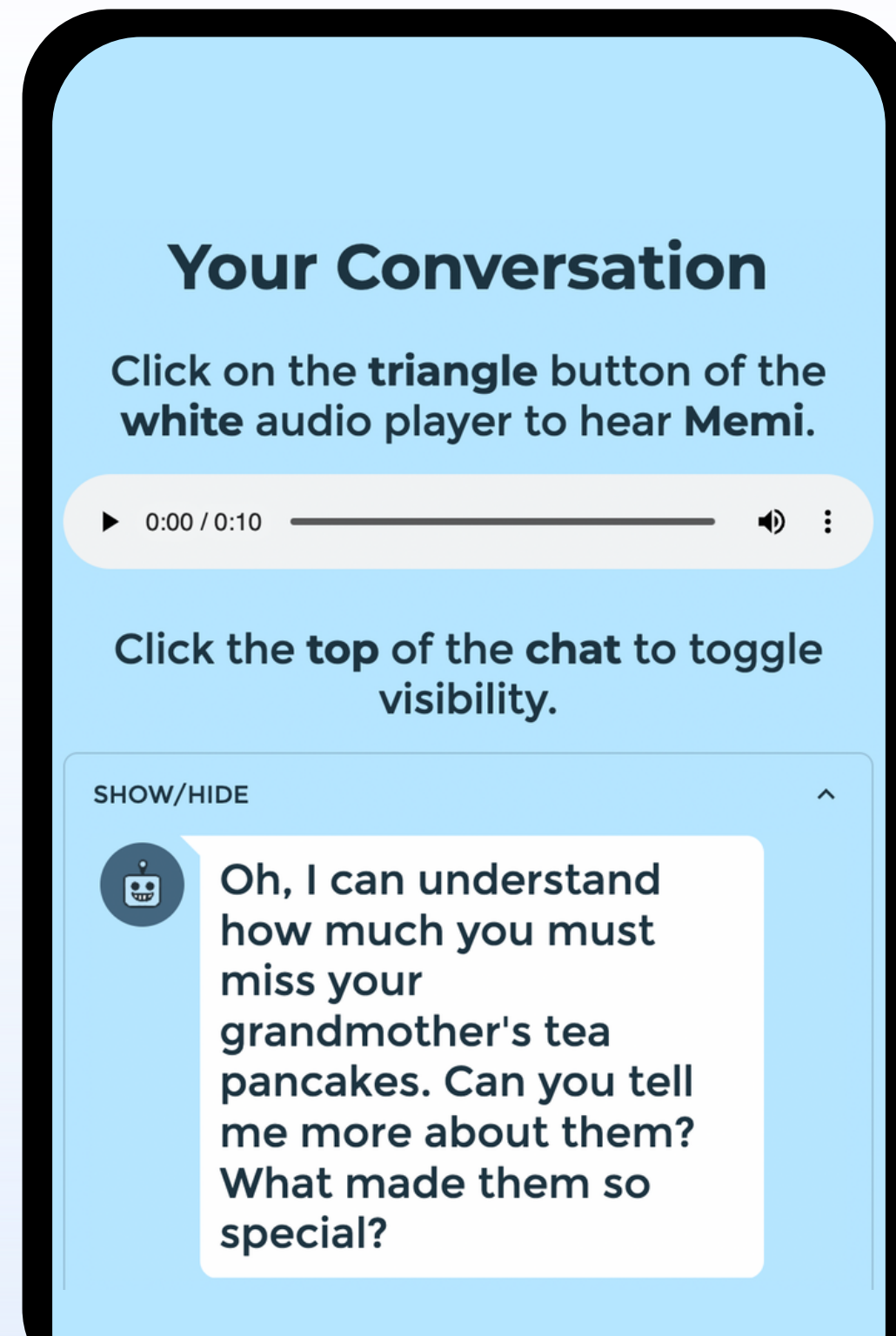
Bring yourself back in time with Memi and re-discover yourself

Vocal Recognition

Tell Memi your story with the emotions and feelings that can only ever be conveyed through voice.

Inquisitive Personality

Delve deeper into memories, with Memi's forever curious and invested personality



Text to Speech

Makes the experience feel more authentic and adds accessibility for visually impaired users

Empathetic Tone

Reflect together about the old days, without feeling judged or criticised

Keywords Recorded

Keywords include: pancakes, grandmother, tea

Find Friends

Name: Gertrude Martin

Matching Keywords: pancakes, grandmother

Click to add Gertrude Martin as a friend

Keyword Analysis

Have your session condensed into key topics and themes to help compare discussions with other users for possible friend recommendations.

Friend Suggestions

Connect with others who have had alike conversations to bond over prior experiences

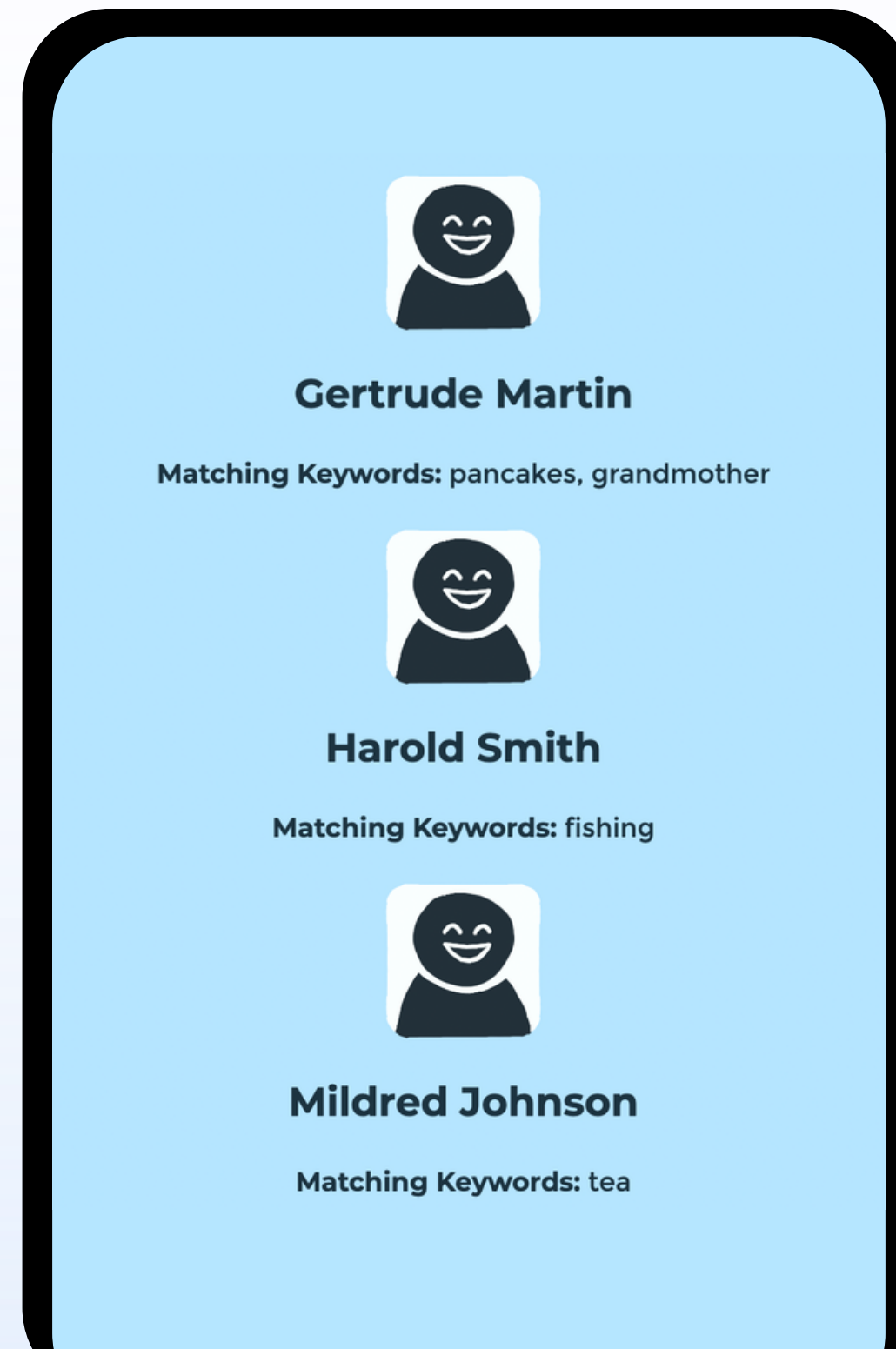
FUNCTIONALITY

Friends Page

Find other likeminded individuals and build heartfelt relationships

Similar Experiences

Helps find common ground between users which can lead to similar interests or personalities



Real Human Connection

Discourages over reliance on Memi and exposes users to new people and experiences

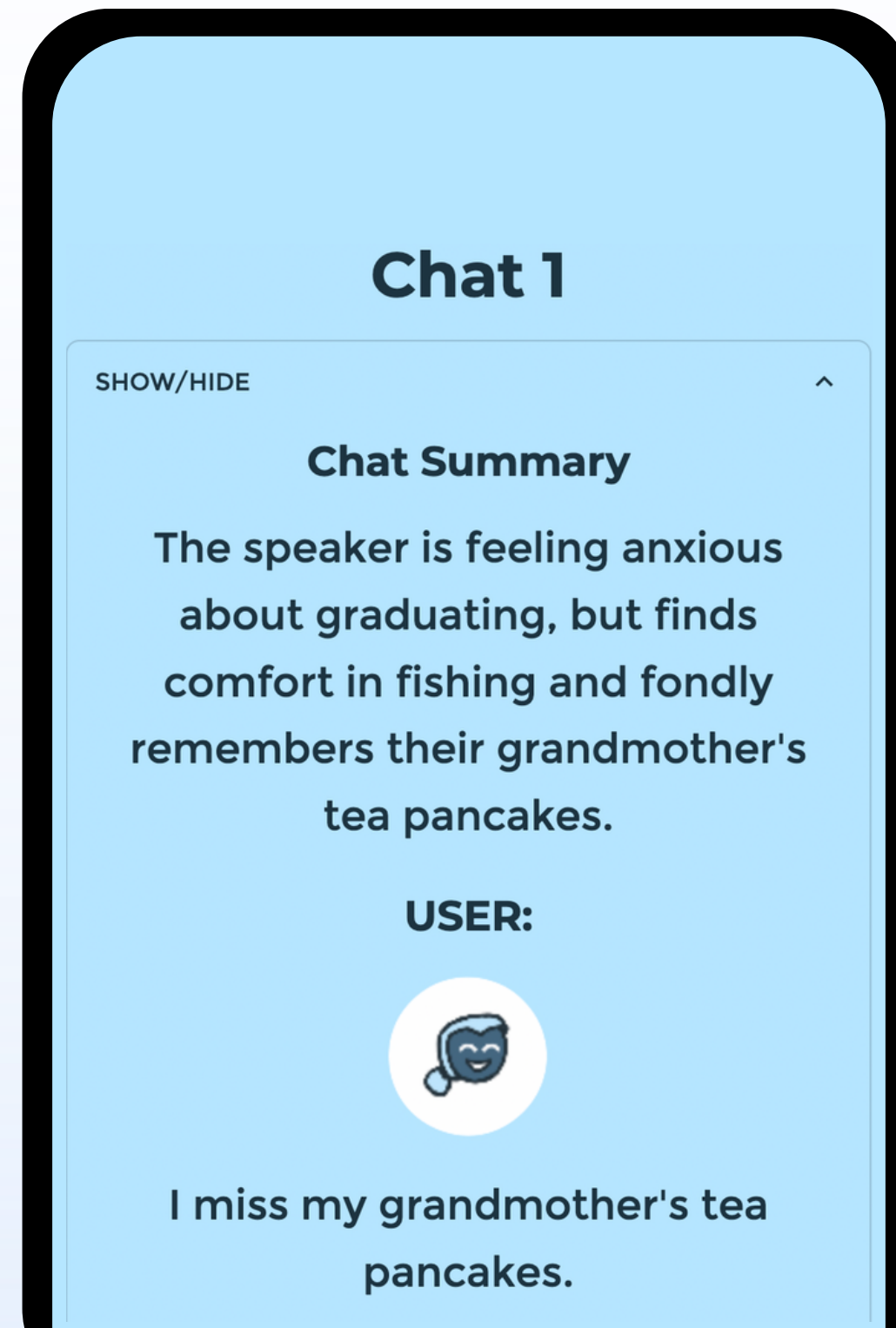
FUNCTIONALITY

Chatlog Page

Keep a digital diary of the most important and memorable moments in your life

Data Storage

Making sure that all previous sessions have been archived for future records



Chat Summaries

Quickly remember conversation topics and subjects at a glance

INSIDE MEMI

Models

Memi is a chatbot website that uses a LLM, NLP and numerous speech models in order to help the elderly through reminiscence therapy.

Automatic Speech Recognition (ASR)



Audio Recorder Streamlit and **OpenAI's Whisper** were used to record and decode auditory input respectively.

Text-To-Speech (TTS)



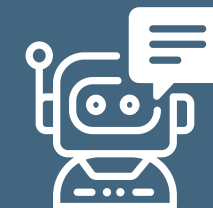
Google's Text-To-Speech module is used to narrate the chatbot's reply, as if Memi were to talk to the user.

Large Language Model (LLM)



ChatGPT 3.5 is used as an specialised LLM in order for Memi to process and respond to input through the role of convenient reminiscence therapist.

Natural Language Processing (NLP)



Spacy is used as an NLP in order to tokenise keywords to help users find friends through matching ones.

LLM Simplification



LangChain is used to simplify LLM processes, in this case, summarising conversations to ease reminiscence.

Data Analysis



Pandas is used as a library to perform data analysis to replicate the matchmaking experience.

JOURNEY TO
COMPLETION

Roadmap

Currently, Memi works well for an individual therapy session, but to enhance users experiences, we will need to implement real time online interactions with other users. We also need to ensure we are providing the best possible experience for users, so the next step is to work with personalised, and real data to consolidate the social experience with real people.

Current functions

Individual Talk Sessions

Add Friends

Chatlog



Future Endeavours

Group Talk Sessions

Profile Creation

Individual Data Storage



End Product

Available on Phones
and tablets

Better therapy experience
after learning more
through getting user data