Microsoft Imagine Cup
2024 Season

Project Proposal

Date :- 30/12/2023

- ## Details

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University	University of Moratuwa, Sri Lanka
Country	Sri Lanka
Project Name	Happy Family
Category	Sustainability

- ## Design Concept

In today's busy world, families are different now compared to the past. Before, parents had more time for their families, making their bonds stronger. But nowadays, father, mother or both parents work a lot, and kids are busy with school and focus on their own things. So, families don't spend much time together, maybe it limits to during dinner. Even when there's time, it's hard to manage or plan well, and decisions might not suit everyone. Also, some family members might be far away or busy with screens, making kids feel unhappy and distant. Additionally, these geographical distances or preoccupation with digital devices further separates some family members, impacting the overall happiness of the family and the mental well-being of children.

To solve this, we're using AI to bring families closer. Our software collects diverse perceptions, including audio, visual, or text data, from all family members and neighbors. Leveraging AI algorithms, the software aims to discover optimal solutions for enriching this time with happiness, love, and enjoyment, fostering a new chapter of familial joy.

- ## Target Audience

We are targeting this innovation towards families who are willing to live a life full of happiness, love, and fun. Especially those who are busy and have little contact with their own family, and people who want to spend more time with their loved ones but do not have an idea how to plan them.

- ### Business Model & Market Competition

While there isn't a specific AI technology solely focused on enhancing family bonds, several tech tools like Amazon Alexa, Apple Siri, and Google Assistant exist. However, they lack the capability to suggest specific actions for improving family life. Our system aims to fill this gap by providing tailored recommendations to enhance family connections by understanding each family member's needs and preferences thoroughly.

Source : https://www.istockphoto.com/vector/a-family-watching-the-news-at-home-gm1388756974-446293349

Seeking guidance from psychologists, therapists, or counselors specialized in family dynamics is a common method for improving family bonds. Nevertheless, this approach has potential drawbacks, including the effectiveness of treatments, reluctance of some family members to participate, and the considerable cost per session (typically ranging from $100 to $200).

Source : https://cdn.memiah.co.uk/uploads/counselling-directory.org.uk/image_gallery/family-support-1673344720-hero.jpg

Comparatively, our initiative introduces a cost-effective solution accessible to everyone. While existing AI assistants like Alexa or Siri may cost $100–$500 (including devices) and professional therapists may cost between $100 and $200 per session, our platform stands out and can be introduced by charging a very low cost for everyone. Unlike traditional therapy, our platform offers convenience; there's no need to physically visit or schedule appointments, providing a more accessible and affordable option for enhancing family relationships.

We aim to foster an environment where families can display their progress to others. Our platform organizes various activities like competitions, group videos, and interactive games among family members. All participating families can present their achievements to the community, gaining followers, likes, and comments on their dedicated family accounts. So sometimes it looks like a game to level up the position and earn scores, a social media platform to show your improvements, and a family therapist to improve your family bond.

For marketing our proposal, we suggest several strategies. These include establishing profiles on popular social media platforms like Facebook, LinkedIn, Twitter, and other relevant channels. Encouraging friends, family, and early users to share information about our product within relevant groups. Active engagement within online communities and forums targeted at our audience to promote our offering effectively. Additionally, we prioritize user feedback and reviews, addressing concerns, resolving issues, and implementing enhancements based on valuable user input.

By incorporating these strategies, our goal is to attract families to our platform, creating a vibrant community that supports and encourages the idea of a happy family while introducing an appealing and successful business venture.

- ## Core Technologies

Our solution relies on a specialized AI system designed to assess each family member's happiness. The system utilizes various sources of information to power the recommendation engine in later stages. These include group chats among family members, visual inputs from CCTV or cameras, audio inputs from microphones, GPS location tracking, historical activity timestamps, surveys, and more.

Analyzing text conversations within the group chat may help to understand preferences, interests, and discussions around various topics. This information helps in identifying common interests among users.

Convert speech input into text, allowing the AI system to comprehend and analyze spoken content. This data can be used to provide insights into users' preferences, discussions, or queries made via voice commands.

Understanding images or visual content shared or interacted with by users could help in identifying preferences based on images or films they watched or shared using visual input recognition.

Ability to use location data to identify frequently visited or preferred places. By analyzing locations, the AI can suggest activities, events, or places of interest in those areas.

These perceptions help to identify each family member clearly and accurately without using any lengthy questionnaires or surveys. After collecting this information, the AI suggests suitable activities to boost family happiness by using a recommendation engine.

The suggested activities are presented to users as cards (as pop-up cards for enhance user engagement) and notifications. The app showcases memories by comparing locations and dates, displayed as a timeline showing past activities and involved family members, aiming to strengthen family bonds.

The algorithm gets feedback from surveys, considering how long families engage in recommended activities and asking how satisfied they are with the activity. This feedback can be used for training our AI model to give accurate output.

The AI system recommends approved activities for specific situations and occasionally seeks input from professionals to improve. If a family therapist is involved, they can review data and provide suggestions through the platform, contributing to system development.

Security is a top priority. Personal data isn't shared with third-party platforms. Users have the option to share data only with officially approved psychologists, therapists, or counselors for their well-being and privacy.
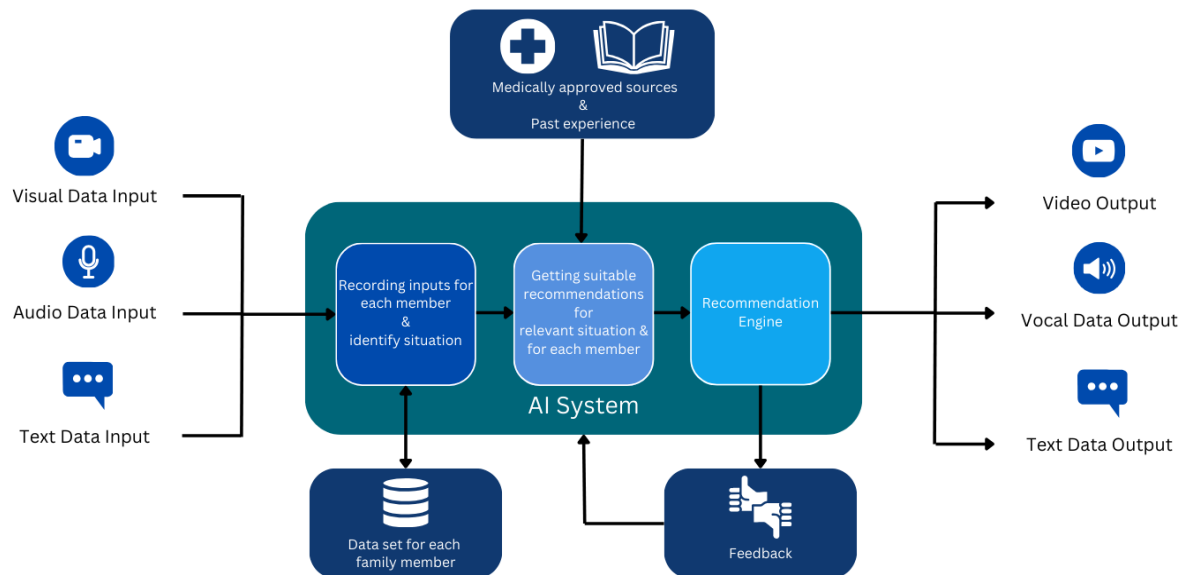
The above diagram illustrates how this AI works. (Note: This is only for reference.). The input data suggests being taken from a mobile phone or any physical device (or from existing systems if it has access to them). The output is also suggested to be shown in the app or by using that physical device (for vocal outputs).

▪ Other features

o **Group chat:** On the platform, there is a space for a secure chat with all family members. This chat only shows relevant family members. There is also a chatbot to respond to your problems.

o **Dashboard:** The front interface of the app shows all the details of functionality and other details. The visual indicators show the progress of happiness. Also, there is some statistical data that may be useful for making decisions in the future.

o **Family Accounts:** We allow one account per family and can make many profiles for each member. By doing this, the AI can identify each person in the family correctly and suggest actions for each member. Also, we allow connections with other family members who are neighbors or friends. This may help facilitate connecting with extended families or family members and getting recommendations for collaborative activities for all.

o **Track user locations:** This allows us to provide contextually relevant features, such as suggesting nearby points of interest or recommending products based on current locations, and to get the locations of family members if they have allowed it.

o **Identify nearby relevant places:** We utilize advanced geospatial data to proactively surface locations of interest to users, enhancing their exploration and discovery within the application.

o **Suggesting products:** By combining location data with user preferences and behavioral insights, we can offer highly personalized product recommendations.

o **Shared Calendar:** Allow families to manage family tasks through a shared calendar and facilitate each member's contribution to fulfilling them through notifications and reminders.

o **Sending Media:** Send some heartfelt messages, short videos (AI-generated by using memories), or voice recordings to each member to occasionally improve family bonding by reminding them.

o **Personalized Learning and Skills Development with family:** Provide curated activities and resources tailored to each family member's age and interests. Additionally, suggest family members with expertise in the respective areas, promoting personal growth and skill development within a supportive family environment.

o **Friendly competitions**: Allow families to engage in friendly competitions against each other, and other families with collaborative mini games.

o **Ranking families:** Publicly rank families by considering engagement with the application if they are willing. And they can level up their existing level by doing activities recommended by AI and being happy.

- End of the Project Proposal -