AMI

A Virtual AI Companion for Schizophrenia patients

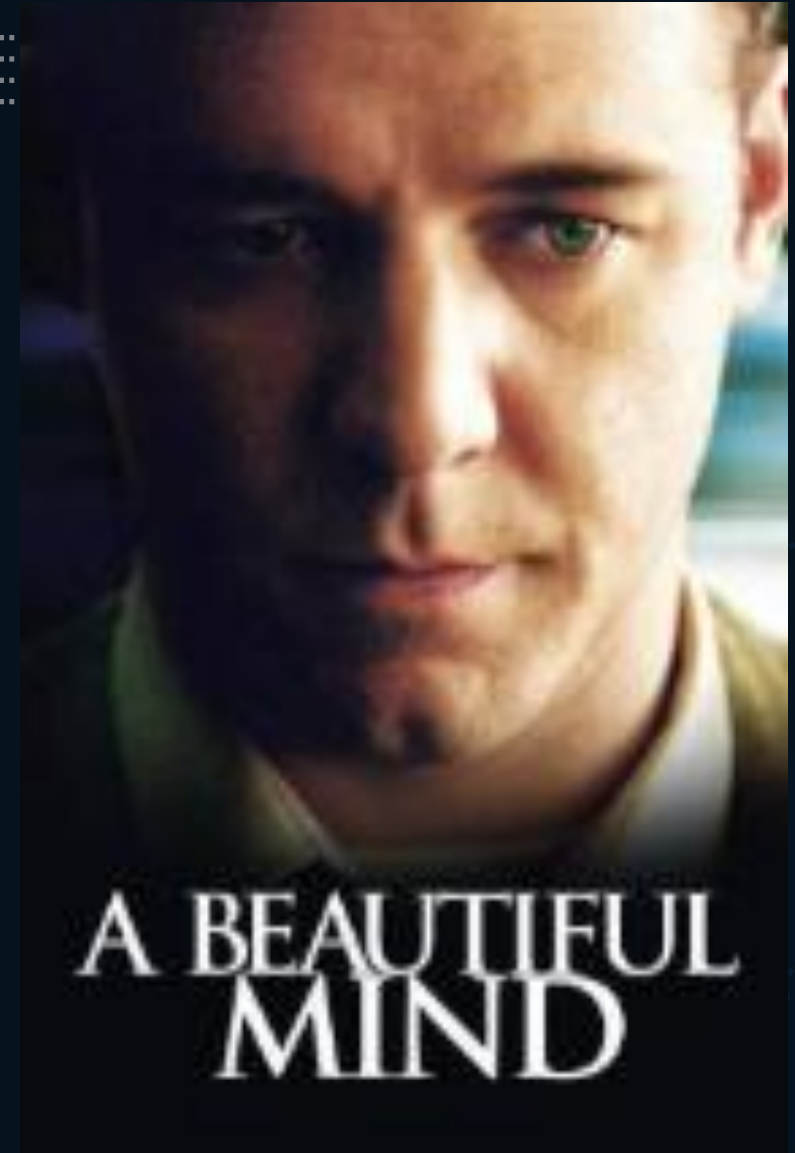Submitted by:

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Inspiration for this project

- A Beautiful Mind – 2001 Film
- John Nash – character played by Russell Crowe

What is Schizophrenia?

Schizophrenia is a long-term mental health condition that can change the way a person thinks, feels, and experiences the world around them.

•People may hear voices, see things, or believe things that others don't.

•It often makes daily life and relationships more challenging.

Schizophrenia is one of the **top 15 leading causes of disability worldwide**, including the U.S.

About 1.5 million people in the United States live with schizophrenia (roughly 0.45% of adults).

Schizophrenia

- People with schizophrenia are **more likely to be hospitalized** and face barriers to stable housing and employment.

- Lack of access to ongoing care can increase the risk of homelessness, social isolation, and crisis episodes.

Schizophrenia is a lifelong condition.
While there is currently no cure, many people manage their symptoms well with a combination of medication, therapy, support from loved ones, and healthy daily routines.

Schizophrenia - Stages

Early stage :

Subtle changes, early symptoms may appear, but diagnosis is often not made yet.

Post Diagnosis:

Focus shifts to treatment, ongoing support, and managing daily life.

Patients need routines, reminders, regular check-ins, and crisis planning.

Patient Needs- Post Diagnosis

•Daily support with medication, appointments, and routines

•Help during emotional distress or crisis

•Easy way to reach family, friends, or doctor

•Reminders and positive encouragement

•Tools to manage symptoms and reduce isolation

Existing Tools:

- Replika (AI chatbot for emotional support, not schizophrenia-specific)

- MindLAMP (research tool for mental health tracking)

- Recovery Record (focuses on eating disorders)

Problem Statement:

No continuous, real-time AI companion exists

Meet AMI

Solution:

AMI is an always-available AI companion for people living with schizophrenia post diagnosis.

What Does AMI do?

- AMI greets the patient every day, checks on their mood, reminds them to take their medication, tracks appointments, supports them at bedtime, and is ready to alert caregivers or doctors instantly in an emergency.

- With AMI, all daily needs—reminders, support, and safety—are always covered, just by speaking.

AMI – Role Play Example

Let us understand how AMI works with the help of an example patient, John.

His doctor is Mr. Smith.

John has his brother, Jacob as an emergency contact.

- In the upcoming slides, 5 features that AMI has are explained.

- The link to python code is added, sample Questionnaire and Answers are added.

- On running the code file, the AI agent guides the user through Voice.

AMI's features

5 Features *

- Daily morning check-in and Journal log

- Medication Reminder

- Appointment Reminder

- Multi-time checks and Bedtime Emotional Check

- Emergency Notification

- *5 features created in MVP for Hackathon purpose- later can be explored more*

Feature 1:
Daily morning check-in and Journal log

Purpose:

- AMI starts each day by greeting the user and asking how they are feeling.

- The patient responds using their voice.

- AMI logs the patient's response as a daily journal entry.

- If crisis words are detected (e.g., "I feel unsafe," "I want to hurt myself"), AMI simulates notifying a doctor or caregiver and offers coping support (like breathing exercises, music, or affirmations).

Python Script:

ami_agent.py (click here to see link to GitHub code)

Feature 2: Medication Reminder

Purpose:

- Reminds the user to take their prescribed medication.

- Captures a verbal response and logs whether the medication was taken.

- Provides gentle encouragement and tracks adherence.

Python Script:

- ami_agent_medication.py(click here to see link to GitHub code)

Feature 3: Appointment Reminder

Purpose:

• Reads the user's appointments from a file and reminds about upcoming doctor visits.

• Helps prevent missed appointments and supports treatment adherence.

Python Script:

• ami_agent_appointment.py(click here to see link to GitHub code)

Feature 4: Multi-time checks and Bedtime Emotional Check

Purpose:

•Checks in with the user at bedtime, asking how they feel.

•Checks in multiple times of day like 2PM, 5PM (Example)

•Records responses and watches for distress or crisis words.

•Notifies caregivers if urgent help is needed.

Python Script:

- bedtime_check.py(click here to see link to GitHub code)

- multi_time_check.py(click here to see link to GitHub code)

- Annexure : scheduled_checks.py(click here to see link to GitHub code)

Feature 5: Emergency Notification

Purpose:

•Listens for an "SOS" or other crisis word from the user.

•Instantly simulates alerting both the doctor and a family member for help in emergencies.

Python Script:

• emergency_notify.py(click here to see link to GitHub code)

Future ?

- Can be operated on multiple platforms

- Can be integrated to Devices

- Customed for user

- More realistic model after consulting psychiatrists and treatments available.

- The code can be tweaked and used for different applications : sleep disorders, treating patients with depression etc.

Thank You