



VIT[®]
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

Project Report for

CSE2004 DATABASE MANAGEMENT SYSTEMS

**MOOD PREDICTION SOFTWARE AND
PSYCHOLOGICAL HELP TOOL
(ICRYM)**

Name:

1. Nitin Ranjan, 18BCE0272
2. Manu Mrinal Singh, 18BCB0103

Slot: D1

Under the guidance of Prof. Govinda K

ABSTRACT

One of the most challenging issues in educational institutions is the huge mental burden that people face – both students and teachers. People suffering from psychological issues often find it hard to put it in front of others and seek help.

The digital age has ushered in an age of digital tools, selfies, Instagram and a semi-social life. It is difficult to ascertain friends and more specifically, friends who truly understand each-other at a deeper and more psychological level.

We hence propose a program that shall chat with the user and demand voice inputs and pictures. Since the tool is completely non-human, we expect most people to react in a very genuine and articulate manner.

Through this project we aim at creating a tool to spread both awareness and help for the issue. ICRYM (I can read your mind) is an artificial-intelligence based program that uses a regular database of images, texts and voices to power itself to understand human mood based on selfies or general talk to the chatbot. The program then recommends books, songs, passages or in some instances (based on the data it maintains for each mood), psychological help with a professional.

The project is based largely on python language augmented by machine learning.

Through this program, we aim at creating an environment more conducive and helpful to everyone.

Motivation

Intelligent agents and healthcare have been intimately linked in the last few years. The intrinsic complexity and diversity of care can be tackled with the flexibility, dynamics and reliability of multi-agent systems. The purpose of this review is to show the feasibility of applying intelligent agents in the healthcare domain and use the findings to provide a discussion of current trends and devise future research directions. A review of the most recent literature of applications of agents in healthcare is discussed. Artificial intelligence (AI) aims to mimic human cognitive functions. It is bringing a paradigm shift to healthcare, powered by increasing availability of healthcare data and rapid progress of analytics techniques. We survey the current status of AI applications in healthcare and discuss its future. AI can be applied to various types of healthcare data (structured and unstructured). Popular AI techniques include machine learning methods for structured data, such as the classical support vector machine and neural network, and the modern deep learning, as well as natural language processing for unstructured data.

SURVEY, NEWS ARTICLES, REPORTS:

1. In India, WHO estimates that the burden of mental health problems is of the tune of 2,443 DALYs per 100,000 population, and the age-adjusted suicide rate per 100,000 population is 21.1. It is estimated that, in India, the economic loss, due to mental health conditions, between 2012-2030, is 1.03 trillion of dollars.
2. Mental health workforce in India (per 100,000 population) include psychiatrists (0.3), nurses (0.12), psychologists (0.07) and social workers (0.07).
3. A study reported in WHO, conducted for the NCMH (National Care Of Medical Health), states that at least 6.5 per cent of the Indian population suffers from some form of the serious mental disorder, with no discernible rural-urban differences. Though there are effective measures and treatments, there is an extreme shortage of mental health workers like psychologists, psychiatrists, and doctors. As reported latest in 2014, it was as low as "one in 100,000 people".

The average suicide rate in India is 10.9 for every lakh people and the majority of people who commit suicide are below 44 years of age.

4. Evidence suggests that anxiety is one of the most common disorders in school-aged children and adolescents worldwide (Costello, Mustillo, Erkanli, Keeler & Angold, 2003). The prevelance rates range from 4.0% to 25.0%, with an average rate of 8.0% (Bernstien & Bortchardt, 1991; Boyd, Kostanski, Gullone, Ollendick & Sheck, 2000). Anxiety is associated with substantial negative effects on children's social, emotional and academic success (Essau, Conradt & Petermann, 2000). In India, the main documented cause of anxiety among school children and parents is parents' high expectations and pressure for academic achievements (Deb, 2001). In India every day 6.23 students commit suicide because of academic failure (Crime in India, 2008).

Pondicherry is on top of list in terms of suicide over population.

TOOLS:

1. A database of 200 images based on 5 emotions.
2. A database of set inputs where responses from users are grouped into the four emotions
3. A database of set replies
4. A database of songs
5. A database of counsellors based on the person's pincode
6. Python module called ImageAI (open source on Github under MIT open license)
(link: <https://github.com/OlafenwaMoses/ImageAI>)
7. Google dialogflow for chatbot
8. Google cloud for chatbot
10. Google projects for chatbot api
11. Kii.com for chatbot api
12. Front-End: Html
13. Data-Base: SQL
14. 14. Back-End: Php

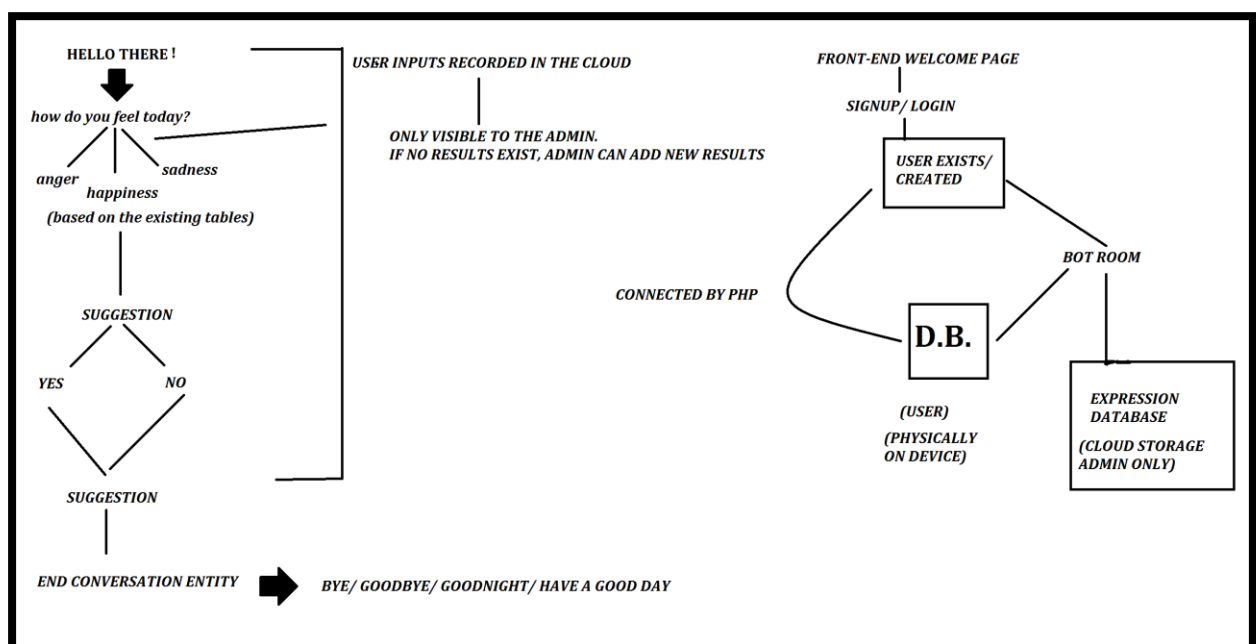
SERVICES OFFERED:

1. Chatbot
2. Image processing
3. Counsellor recommendation
4. Mood recognition
5. Music
6. Book recommendation
7. Quotes
8. Poems
9. Game recommendation
10. Fashion recommendation

The user can make custom selection about the points 5-10.

Flow:

- login
- enter a name, age, sex
- enter five positive points about yourself
- enter three negative points about yourself
- enter pin code
- make selection of services to be taken
- start a conversation (first conversation designed by system, later the user may change)
- tell about the day in points or in para (regex can be used to break down paragraphs in points)
- user gets a random prompt (any service he opted for) based on the mood the program analyses



How does it help anyway?

- Classical therapies are human based. While psychological patients always need a human, they cannot always have one.
- This is where this tool helps. It automates a large amount of help needed.
- Most of the things a person is unwilling to share to the world can be shared here.
- However, if extreme cases are spotted, the bot automatically is redirected to the psychiatrists and guides for professional help.

The repository with the source code is available at:

https://github.com/NitinR2510/HTML_CSS/tree/master/icrym