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CMPE-491

Project Specifications Report

MAI Therapist

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1. Introduction

1.1 Description

MAI Therapist is a Project that is designed to help Psychologists to analyze therapy sessions. With using MAI Therapist, therapists will have an analysis that shows how the client felt in specific conversation. To report those emotions, we will use a video camera to record the session and artificial intelligence that analyze the emotions, gestures, facial expressions, and the voice tone of the client. At the end of the session, the therapist will have an analysis result that contains dialogues. By comparing their analysis with MAI Therapist analysis, therapists can improve their approach and, they can see if there is a point they missed.

1.2 Constraints

· Economic

For the project, the cost for supplying a computer and camera must be considered by the therapists if they don't. They will pay for our service as well.

We will be paying for server, cloud service and database related prices monthly.

· Environmental

To detect the facial expressions of the patients by the camera properly, the environment should be bright, and to record the conversations clearly there shouldn’t be too much noise or other sound in the environment. Other than that, the project itself has no good or bad effect on the environment.

· Political

Even though we are going to record the session and use the emotion recognition system if the patient has permission, outside of our project the usage of the system may invade personal space. Because of that reason, if a country prohibits emotion recognition, our project could not be used in such places.

· Ethical

To use the system over patients and use their data, their permission must be obtained. To prevent security breaches and to ensure that the psychologist does not have access to the records after the process is done, records should be deleted automatically after a while. Also they won’t be shared with third parties or individuals.

· Health and safety

To ensure safety, there should be a security system to prevent outside access rather than the psychologists who are the users of the system, to the records and the analysis of the patients.

The therapists will analyze the patient better and patients' health will improve. The therapy sessions will improve thanks to our service.

· Manufacturability

Manufacturability of the system is supplied by setting up the software to the computers, which can be done swiftly.

· Sustainability

Facial recognition technology continues to evolve. The system should be updated over time to keep up with the developments and to get better results.

1.3 Professional and Ethical Issues

Security and Privacy Issues

Users can only be logged in with the correct credentials including their username and password. While software malfunctions, data security may also be jeopardized, posing the risk of data leakage that are outside the therapist's management. Apart from that, all the files and videos we keep in our database are encrypted and closed to outside access. Patient information will not be used for advertising purposes. It will not be shared with 3rd party software. If the patient consents, this person's data will be used to train the AI.

Issues with Informed Consent

MAI Therapist needs a specific kind of explicit consent because of the various ways that it differs from classical in-person treatment (such as technological and security obligations). It could be challenging to ascertain the client's competence to offer permission under the law or to judge their mindset. Since we will be recording the patient with a camera during therapy, the person's explicit consent must be obtained prior to therapy.

Patient Mentality

The use of an MAI Therapist might not be appropriate for all clients, pathological features, mental illnesses, or challenges; on occasion, it may even be associated with complications, particularly in cases of severe mental disorders or in clients who seem to be completely dysfunctional and/or a danger to the patient or somebody else.

1. Requirements

1. Application should have an AI service that will be implied for the project.

2. Application should be able to identify the patient's emotions, gestures, speech, facial expressions.

3. Application should be able to convert voice to text.

4. Application should be able to analyze the therapist's questions and patient’s answers.

5. Application should be able to provide an analysis report of the session to the therapist.

6. Application should be able to record the session by a video camera

7. There should be a server to host our application

8. Application should have database to store all data of the patients

9. An admin dashboard for therapists to see datas’ and analysis of patients

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