YEAR2019 2020

achieve an accurate and precise analysis, over all the people in the institution, and see the rate of change in their behavior

Group - 5

Automated Emotion Analysis

System

RBK-TUNISIA

PROJECT INTRODUCTION

Group Members –

* Abobker Elaghel – Product Owner
* Ahmed Wheida – Scrum Master
* Ali Jalal
* Jihed Abdelly

The Idea of the project is to automate and/or facilitate the process of checking the mental state/health of a specific institution, work space, school, etc.

By constantly checking and analyzing the face expressions, of the personnel who work and/or study in that specific place.

All the work is done on the data received, is done using unsupervised machine learning, which will cluster the data into a Number of Groups.

And send that data to the superior authority of that place or the concerned party to be psychoanalyzed.

All the data is saved in a server, which can be accessed, using a specific interface, which from, a multiple report can be obtained, e.g... bidaily, daily, bimonthly etc.

Also, real-time monitoring and analyzing, of all the cameras monitoring personnel, students, workers etc. available in the interface connected to the database.

Current System and its Drawbacks

Most of (if not all) the currents methods and systems that work to analyze, the mental health of a specific institution,

Project scope

The scope of the project will only concern, the place which the system will take place in, all the people work/study/live there, the superior authority of that place or the concerned party of the data obtained from the system

User Stories - (Scenario)

* As a user, he should be able to open the web-app, and sign-in with his face, face ID.
* The front-end side, after the user signed-in, will constantly send the information of that user to the server, their it will be analyzed and processed.
* As a user, he should be also capable of opening the web-app in his phone.
* So, the web-app needs to be flexible in the phone side also.
* As an admin, the system should provide him with a full web-app interface.
* The web-app should provide sign-in process, authentication with a web-token, (with a very limited accessibility time) by **Default**, for security purposes.
* The admin interface should also have a phone-friendly version or app, that is **at least** supported on android devices
* The admin interface, should provide reports, bidaily, daily, biweekly.
* The admin, should be able to see each individual person registered in the system.
* The admin, should be able to see analytical information about each user.
* The system will also clusters the users registered in the system into group.
* Each group is selected by the unsupervised machine learning algorithm, and each group will be logically placed together based on their data on common, obtained from the database.
* The admin will then see the groups and what exactly they have in common, based on that, the admin and/or concerned party, will take their actions.

Gantt Chart

Technologies & Frameworks

Front – End, **Vue.js**

Back – end Node.js ( **Graphql** )

Database – Mango DB

Server-Side Deployment - **Heroku**

Front-end Deployment – **Firebase**

Faceapi for face recognizing services

Mocha: for testing

Cloudinary: for image persistence and uploading photos

Apollo server and Apollo client as an intermediary for graphql

PM2 for the Parallel Distribution of load across the server  
Bootstrap, MDB, bootstrap-Vue for styling the components.

Other libraries used: Bcryert for Hashing and comparing the password, mongoose ODM for designing the schema of the database and interacting with it, jwt for signing token for the user and admin when they sign in and validating that token

Final Notes

this Thesis, ***supervised by RBK Tunisia***, is the result of the collaborative work of Four Students

* Abobker Elaghel - Product Owner
* Ahmed Wheida - SCRUM Master
* Ali Jalal
* Jihad Alabdly

we all played an equal role in making this project stand-out, and successful, we put our best efforts in it and learned a lot of new things on the way, and we’ll continue to learn and improve our self’s as long as we can.

We had a lot of problems, disputes, and bugs regarding the system, but together, we managed to push beyond out comfort zone boundaries, and fixed every error that comes along our way.

And we would love to continue to work in the project and hone it even more.

Also, we would like to give a special thanks and gratitude to RBK and all its associates, for giving us this opportunity to improve our self’s and plant in us the ability to autonomously learn anything.

And we hope that our project meats the expectations of the HIRs and Mentors of the program, and meets the industry standards.

* The project Source Code was Coded by all the members of the team
* This Doc Files Was prepared by Abobker Elaghel Using Microsoft Word 2019
* The Database Design was designed by Abobker Elaghel using Microsoft Visio 2019