**A**

**PROJECT REPORT**

**ON**

**Detection Mental Disorder Using ML**

**BY**

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**MCA – III Div-C**

**SEM – V**

**2021-2022**

**TO**

**SAVITRIBAI PHULE PUNE UNIVERSITY**

**PUNE- 411041**

**IN PARTIAL FULFILLMENT OF**

**MASTER OF COMPUTER APPLICATION (M. C. A.)**

**UNDER THE GUIDANCE OF**

**PROF.MONALISA BHINGE**

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Sinhgad Technical Education Society’s

SINHGAD INSTITUTE OF MANAGEMENT,

Vadgaon Bk, Pune

(Affiliated to Savitribai Phule Pune University, Approved by AICTE

& Accredited by National Board of Accreditation, New Delhi)

**CERTIFICATE**

This is to certify that **Ms. Pratiksha Balbhim Biradar** has successfully / partially completed his/her project work entitled “**Detection Mental Disorder Using ML**” in partial fulfillment of MCA-III SEM- V. Industry Project for the year 2021-2022. she has worked under our guidance and direction

**Prof. Monalisa Bhinge Dr. Chandrani Singh**

**Project Guide Director SIOM - MCA**

**Examiner 1 Examiner 2**

Date: / / 2022

Place: Pune

**DECLARATION**

We certify that the work contained in this report is original and has been done by us under the guidance of my supervisor(s).

* The work has not been submitted to any other Institute for any degree or diploma.
* We have followed the guidelines provided by the Institute in preparing the report.
* We have conformed to the norms and guidelines given in the Ethical Code of Conduct of the Institute.
* Whenever we have used materials (data, theoretical analysis, figures, and text) from other sources, we have given due credit to them by citing them in the text of the report and giving their details in the references.

**Name and Signature of Project Team Members:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Seat No.** | **Name of students** | **Signature of students** |
| **1** | **15036** | **Pratiksha Balbhim Biradar** |  |

**ACKNOWLEDGEMENT**

We have immense pleasure in expressing our sincerest and deepest sense of gratitude towards our guide **Prof. Monalisa Bhinge** for the assistance, valuable guidance and co- operation in carrying out this Project successfully. We have developed this project with the help of Faculty members of our institute and we are extremely grateful to all of them. We also take this opportunity to thank Head of the Department Dr. Chandrani Singh, for providing the required facilities in completing this project. We are greatly thankful to our parents, friends and faculty members for their motivation, guidance and help whenever needed.

**Thank You,**

**Pratiksha Balbhim Biradar**

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**INTRODUCTION**

Mental disorders is threatening people’s health. It is non-trivial to detect mental disorders or stress timely for proactive care. Therefore we presented a framework for detecting users’ psychological stress states from users’ monthly social media data, leveraging facebook post ’ content as well as users’ social interactions. In this proposed system SNMD framework system using conventional neural network(CNN) for extraction of facebook post. TSVM (Transductive SVM) for classification of post and KNN( K-nearest neighbors) for recommendation purpose. Employing real-world social media data as the basis, we studied the correlation between user’ psychological stress states and their social interaction behaviors. We recommended the user for health consultant or doctor. We can show the hospitals for further treatment on a graph which locate shortest path from current location user to that hospital. We recommended the user for health precaution send on mail for user interaction purpose.

**ABSTRACT**

Mental disorders are becoming a threat to people’s health now a day. With the rapid pace of life, more and more people are feeling stressed. It is not easy to detect user’s mental disorders in an early time to protect user. With the fame of web-based social networking, individuals are used to sharing their day by day activities and interacting with friends via web-based networking media stages, making it possible to use online social network data for stress detection. In our system we find that users mental disorders state is closely related to that of his/her friends in social media, and i employ a large-scale dataset from real-world social platforms to systematically study the correlation of users’ stress states and social interactions In our system, we find that users stress state is closely related to that of his/her friends in social media, and we employ a large- scale dataset from real-world social platforms to systematically study the correlation of users’ stress states and social interactions. we first define a set of stress-related textual, visual, and social attributes from various aspects in social network mental disorders (SNMDs), In proposed system using CNN we can sentiment analysis of facebook post after Formation of topic using Transductive Support Vector Method(TSVM) we can classified user are in detecting mentally disorders or not. After classification user are in mentally disorders or not k-nearest neighbors algorithm (KNN) is used for recommendation hospital on a map as well as Admin can send mail of precaution list for user for become healthy and happy in life

**Existing System and Need for System:**

In the existing system work on stress detection is based on the digital signal processing, taking into consideration Galvanic skin response, blood volume, pupil dilation and skin temperature. And the other work on this issue is based on several physiological signals and visual features (eye closure, head movement) to monitor the stress in a person while he is working. However these measurements are intrusive and are less comfortable in real application. Every sensor data is compared with a stress index which is a threshold value used for detecting the stress level.

DISADVANTAGES OF EXISTING SYSTEM:

\*Physiological signals used for analysis are often pigeonholed by a Non-stationary time performance.

\* The extracted features explicitly gives the stress index of the physiological signals. The ECG signal is directly assessed by using commonly used peak j48 algorithm

\* Different people may behave or express differently under stress and it is hard to find a universal pattern to define the stress emotion.

**Scope of System**

The proposed scheme has the scope in below application in future,

* Our application is used in hospitals, in clinics.
* Our application is also used for medical consults for detecting the stress on a social interaction of social network

**REQUIREMENT AND SPECIFICATIONS**

**Introduction**

In the system requirement specification there is hardware and software requirement specification in which hardware and software requirements required.

**Hardware Specification**

* Processor - Intel i3 core
* Speed - 1.1 GHz
* RAM - 4 GB(min)
* Hard Disk - 20 GB
* Floppy Drive - 1.44 MB
* Key Board - Standard Windows Keyboard
* Mouse - Two or Three Button Mouse
* Monitor – SVGA

**Software Specification**

* Operating System - Windows 11
* Programming Language - Java/J2EE
* Software Version - JDK 1.8
* IDE - Eclipse Photon

**Brief Description of Technology Used**

Operating systems used: Windows 11

Windows 11 is the latest major release of Microsoft's Windows NT operating system, released in October 2021. It is a free upgrade to its predecessor, Windows 10 (2015), available for Windows 10 devices which meet the new Windows 11 system requirements. Windows 11 is a personalized operating system that supports all types of devices such as smart phones, tablets, and personal computers and also has the ability to create multiple desktops and switch between them.

**OS family:**Microsoft Windows

**Developer:**Microsoft

**Database** Used: MySQL Workbench 8.0, MySQL 8.0 Command Line Client

MySQL Workbench is a unified visual tool for database architects, developers, and DBAs. MySQL Workbench provides data modeling, SQL development, and comprehensive administration tools for server configuration, user administration, backup, and much more. MySQL Workbench is available on Windows, Linux and Mac OS X. Mysql is a simple SQL shell with input line editing capabilities. It supports interactive and non-interactive use. When used interactively, query results are presented in an ASCII-table format. When used non-interactively (for example, as a filter), the result is presented in tab-separated format.

**PROPOSED SYSTEM:**

The proposed System Machine Learning algorithms like KNN classifiers are applied to classify stress. Image Processing is used at the initial stage for detection, the employee‟s image is given by the browser which serves as input. In order to get an enhanced image or to extract some useful information from it image processing is used by converting image into digital form and performing some operations on it. By taking input as an image and output may be image or characteristics associated with that images. The emotion are displayed on the rounder box. The stress level indicating by Angry, Disgusted, Fearful, Sad.

ADVANTAGES OF PROPOSED SYSTEM:

* Detecting users psychological stress states fromusers weekly social media data, leveraging facebook post content as well asusers social interactions. From social interaction of user we find out whetheruser is in stress or not.
* Recommend the user a health consultant or doctor.
* Show the hospitals for further treatment on a graph which locates the shortestpath from current location of the user to that hospital.
* Recommend the user for health precaution send on mail for user interactionpurpose.

**Feasibility Study:**

Feasibility study is conducted once the problem is clearly understood. Feasibility study is a high level capsule version of the entire system analysis and design process. The objective is to determine quickly at a minimum expense how to solve a problem. The purpose of feasibility is not to solve the problem but to determine if the problem is worth solving.

The system has been tested for feasibility in the following points.

1. Technical Feasibility:

The project entitles “Decetion of Mental disorder using ML” is technically feasibility because of the below mentioned feature. It provides the high level of reliability, availability and compatibility.

1. Economic Feasibility:

Economic feasibility assessment typically involves a cost/ benefits analysis of the project, helping organizations determine the viability, cost, and benefits associated with a project before financial resources are allocated. It also serves as an independent project assessment and enhances project credibility—helping decision makers determine the positive economic benefits to the organization that the proposed project will provide.

1. Operational Feasibility:

Operational Feasibility assessment involves undertaking a study to analyze and determine whether—and how well—the organization’s need can be met by completing the project. Operational feasibility studies also analyze how a project plan satisfies the requirements identified in the requirements analysis phase of system development In this project, the management will know the details of each project where he may be presented and the data will be maintained as decentralized and if any inquires for that particular contract can be known as per their cost.

**OBJECTIVE**

* We propose a framework for detecting users psychological stress states from user’s weekly social media data, leveraging Face book post content as well as users social interactions. From social interaction of user we find out whether user is in stress or not.
* We recommend the user a health consultant or doctor.
* We show the hospitals for further treatment on a graph which locates the shortest path from current location of the user to that hospital.
* We recommend the user for health precaution send on mail for user interaction purpose.

**Users of System**

The system will have a friendly user interface and support for the local languages so that there is no problem for users who will speak either of the country's languages. The system will only have one users, one is the admin. The admin will access to the editing password and can view the information on the system so there is a need for implementing three access levels.

**Analysis And Design:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Functional Requirements | | |
|  |  | | | **System Feature 1(Functional Requirement)**   * In this system detect user are stress or depress due to interaction of social network. |
|  |  | | | **System Feature2 (Functional Requirement)** |
|  |  | | | * Precaution list pdf must be added in the system. * Hospital dataset is also requiring for recommendation of any user. |
|  |  | | |  |
|  | External Interface Requirements (If Any) | | | |

* **Assumptions:-**Detection of user due to interaction of social networks. We find out any user in stress get real time facebook post, Show shortest distance between current locations to destination.
* **Dependencies:-**User should be authorized. User needs facebook account. Without facebook account we cannot find out user interaction with social media. For show shortest distance on map hospital dataset is needed

|  |  |
| --- | --- |
|  | **User Interfaces** |

Login, registration of user and Login of Admin.

**Homepage**-User, Admin

* Admin Login with authentication, Check user is in stress or mentally disorders or not, Add precaution list, Send a health precautions pdf, suggest any hospital for the further treatment.
* User Registration and login with authentication, Enter facebook token and view result, View suggest hospital on map, View precaution pdf on mail.

|  |  |  |
| --- | --- | --- |
|  |  | **Hardware Interfaces** |

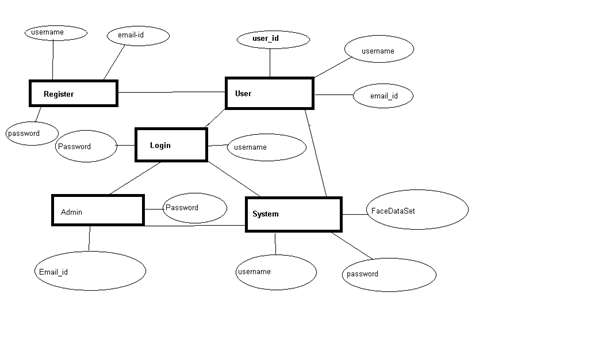
* To run our project we required a hardware system which is feasible for our project like Intel I3 processor, 2 GB RAM, 20GB Hard disk .We also need standard keyboard, Mouse, LED Monitor.

|  |  |
| --- | --- |
|  | **Software Interfaces** |

* The system can use Microsoft as the operating system platform. System also makes use of certain GUI tools. To run this application we need JDK 1.7 and above as java platform and Apache tomcat as server. To store data we need MySQL database.

|  |  |  |
| --- | --- | --- |
|  | Nonfunctional Requirements | |
|  |  | **Performance Requirements**  In identifying and quantifying performance requirements, it is important to identify the reasoning behind a particular requirement. This is part of the general capacity planning process. Users might be basing their statements of requirements on assumptions about the logic of the program that do not match the programmer’s assumptions. In order to assess the performance of a system the following must be clearly specified:  • **Response time-** Response time is for searching the image is less as compare to existing system. View time for all information is also less. Fast accessing data from facebook in proposed system.  **Workload-**The workload is often described as the scenarios that the users are likely to execute. How much get user facebook post from facebook also find out how much user in stress or depress as well as non-stress user or non-depress user in proposed system. Find out how much user is used this system.  • **Scalability-** In one respect scalability is simply specified as more facebook relevant post in tin particular category the systems workload that the system should be able to process. |
|  |  | **Safety Requirements**  Software System Safety upgrades framework safety in the configuration, improvement, use and maintenance of software frameworks and their incorporation with security basic equipment frameworks in an operational. Only authorized admin and user access this system.  • The failure of system to facebook token is expired shall be detected, isolated, and recovered.  • Software shall perform Automatic Failure detection, isolation and Recovery.  •Only authorized person can access the system data. |
|  |  | **Security Requirements**  Secure Functional Requirements; this is a security related description that is integrated into each functional requirement. Typically this also says what shall not happen. This requirement artifact can for example be derived from misuse cases. Only authorized user can used this system .Admin can send precaution file to authorized user only. |

**Entity Relationship Diagram:**

****

**Table Structure:**

**Facebook chatting:**

Text

Description automatically generated with low confidence

**Facebook User Profile:**

Text

Description automatically generated with medium confidence

**Admin:**

Text

Description automatically generated with medium confidence

**Followers:**

Text

Description automatically generated

**Table Results:**

A screenshot of a computer

Description automatically generated with medium confidence

**Table Users:**

Text

Description automatically generated with medium confidence

**User Result:**

A picture containing text, plaque

Description automatically generated

**Use case diagram:-**

A use case diagram is a graphical representation of a user's interaction with the system and depicting the specifications of a use case. A use case diagram can show the different types of users of a system and the various ways in which they interact with the system. Use case diagrams are used to gather the requirements of a system including internal and external influences. These requirements are mostly design requirements. So when a system is analyzed to gather its functionality use cases are prepared and actors are identified. The purposes of use case diagrams can be as follows:

* Used to gather requirements of a system.
* Used to get an outside view of a system.
* Identify external and internal factors influencing the system.
* Show the interaction among the actors.



**Class Diagram:**

The class diagram is a static diagram. It represents the static view of an application. Class diagram is not only used for visualizing, describing and documenting different aspects of a system but also for constructing executable code of the software application. The class diagram describes the attributes and operations of a class and also the constraints imposed on the system. The class diagrams are widely used in the modeling of object oriented systems because they are the only UML diagrams which can be mapped directly with object oriented languages. The class diagram shows a collection of classes, interfaces, associations, collaborations and constraints. It is also known as a structural diagram. The purpose of the class diagram is to model the static view of an application.



**Fig. Class Diagram**

**Activity diagrams:**

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. In the Unified Modeling Language, activity diagrams are intended to model both computational and organizational processes (i.e. workflows). Activity diagrams show the overall flow of control. Activity diagrams are constructed from a limited number of shapes, connected with arrows. The most important shape types:

* Rounded rectangles represent actions;
* Diamonds represent decisions;
* Bars represent the start (split) or end (join) of concurrent activities;
* A black circle represents the start (initial state) of the workflow;
* An encircled black circle represents the end (final state).

Arrows run from the start towards the end and represent the order in which activities happen. Hence they can be regarded as a form of flowchart. Typical flowchart techniques lack constructs for ex-pressing concurrency. However, the join and split symbols in activity diagrams only resolve this for simple cases; the meaning of the model is not clear when they are arbitrarily combined with decisions or loops.



**Deployment Diagram:**

Deployment diagrams are used to visualize the topology eof the physical components of a system where the software components are deployed. So deployment diagrams are used to describe the static deployment view of a system. Deployment diagrams consist of nodes and their relationships.

Diagram

Description automatically generated

Fig.Deployment Diagram

**Sample Input and Output Screens**

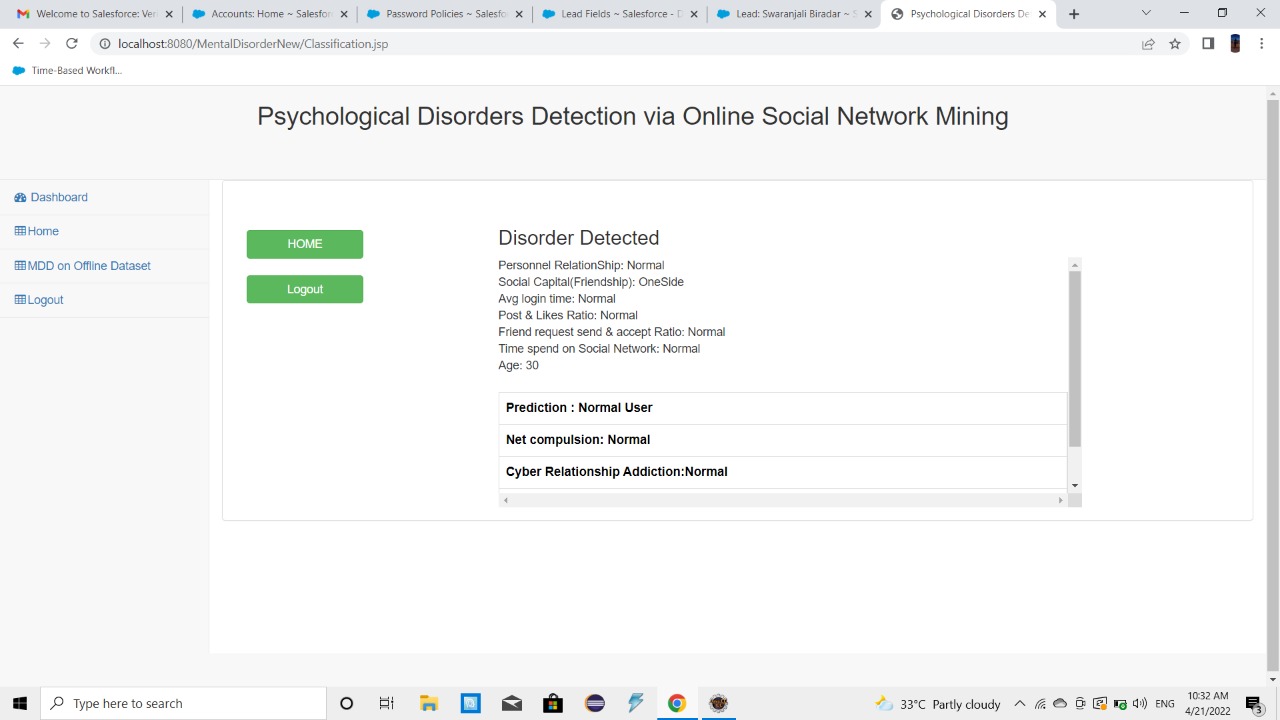
**Graphical user interface, application

Description automatically generatedGraphical user interface, text, application

Description automatically generatedGraphical user interface, application, Word

Description automatically generatedGraphical user interface, application

Description automatically generatedGraphical user interface, application

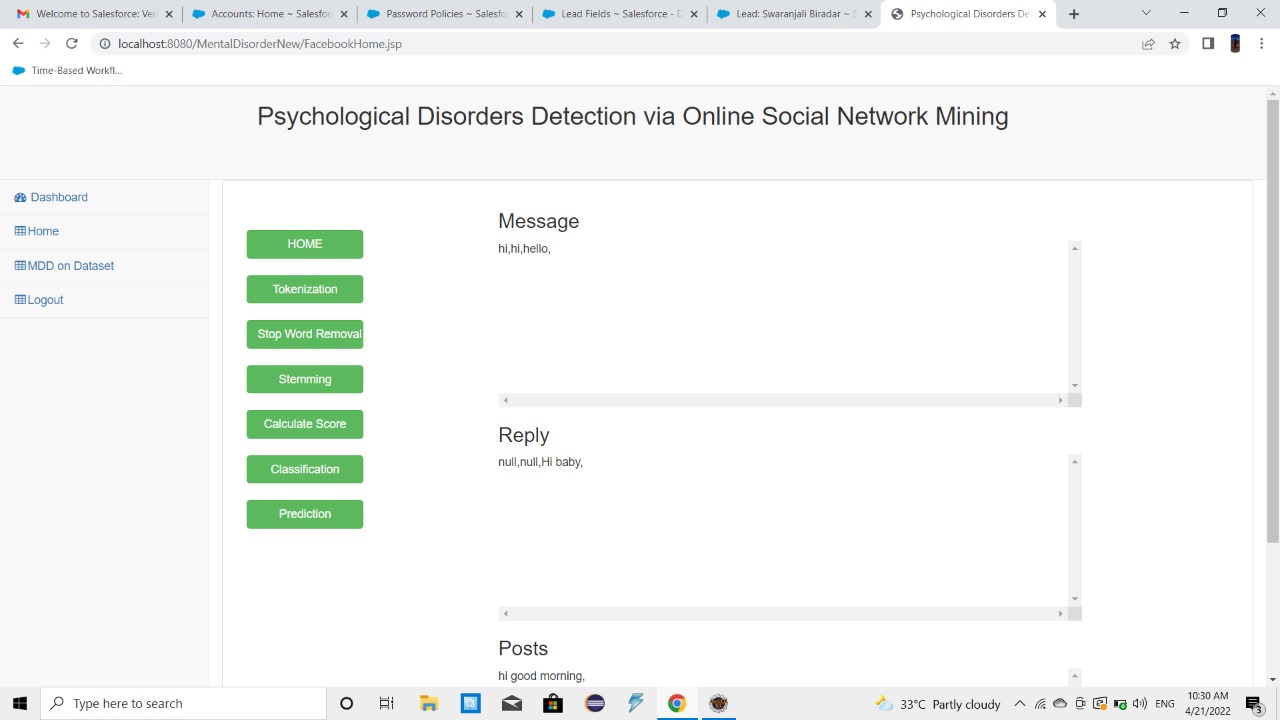
Description automatically generatedGraphical user interface, application, Word

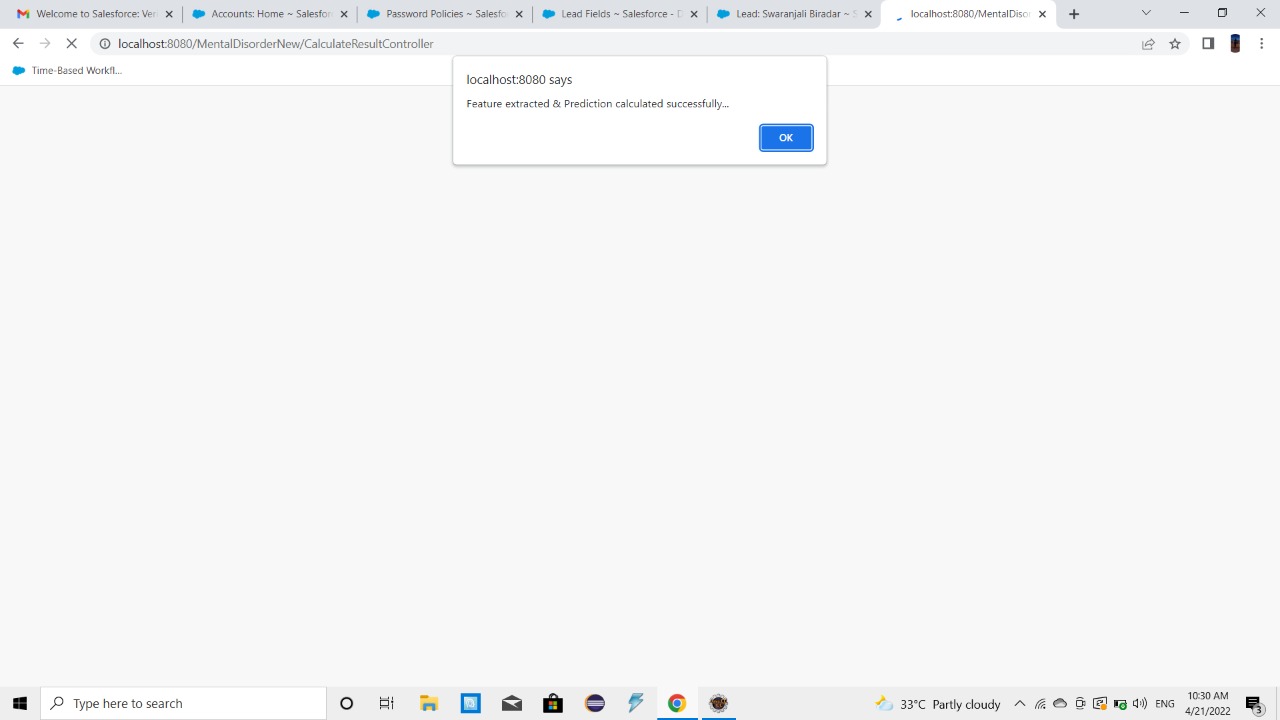
Description automatically generatedGraphical user interface, application

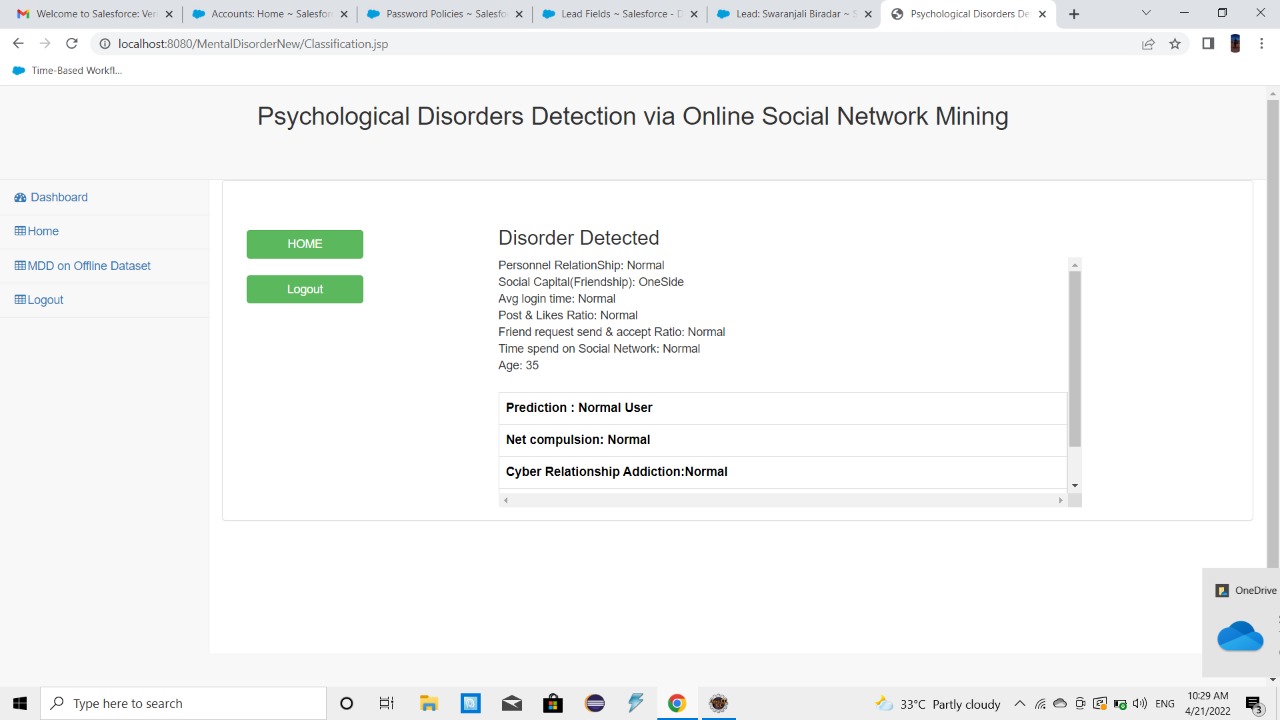
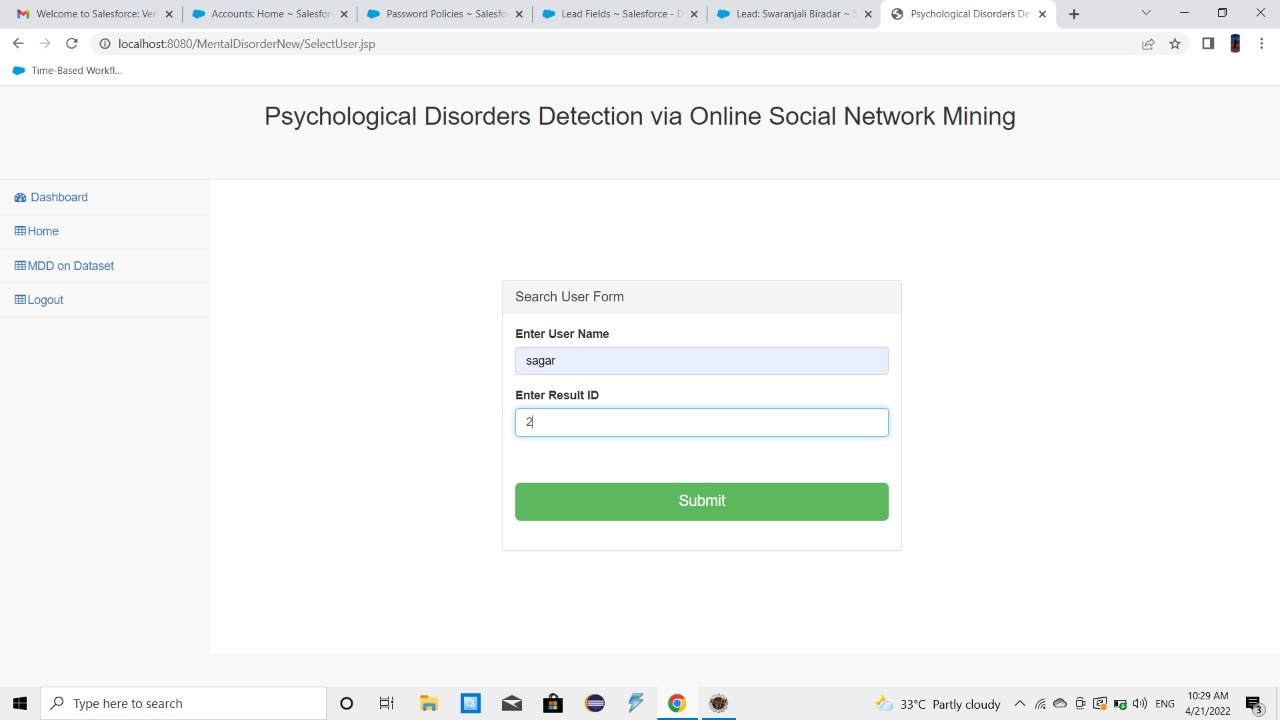
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