



MINDWAVE

SAVING LIVES, SAVING YOU

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Problem

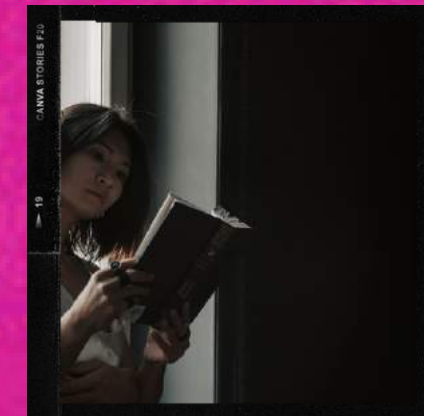
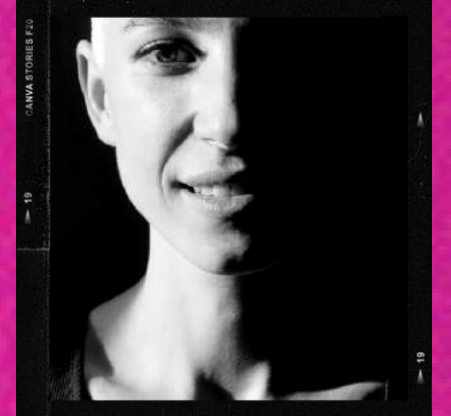
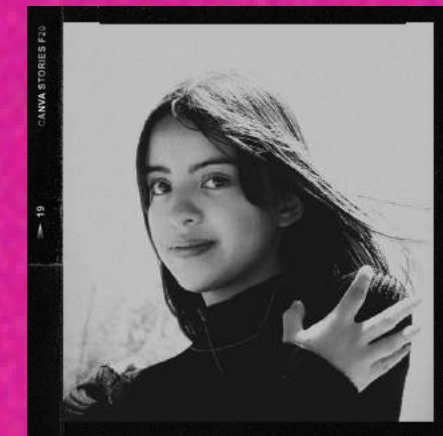
- What are we tackling?
 - We are tackling late detection of mental health issues.
- What does it matter?

Hurts self in many ways



Harmful to others

- Why early detecting of mental health issues matter?
 - Early detection can lead to early intervention and increased likelihood of recovery
 - Mental health issues can worsen overtime without treatment
 - Prevention of crises, such as hospitalisation, self-harm, or suicide
- Are there metrics?
 - 1 in every 8 people in the world live with a mental disorder
 - 50% of all lifetime mental illness begins by age 14, and 75% by age 24



Source:

<https://www.who.int/news-room/fact-sheets/detail/mental-disorders>

Niche

- Who has this problem?



Everyone!

- Our product focuses on Twitter
 - Twitter has **450mil monthly active users**
 - Users of social media face higher rates of mental health issues compared to non-users
 - 25% of heavy social media users have high risk of depression
- Our target market is **112mil** (25% of Twitter Users)

Source:

<https://www.statista.com/statistics/283119/age-distribution-of-global-twitter-users/>

<https://onlinelibrary.wiley.com/doi/10.1002/da.22779>

<https://www.demandsage.com/twitter-statistics/#:~:text=Twitter%20has%20around%20450%20million,users%2C%20with%2079.6%20million%20users.>



Solution

Value Proposition:

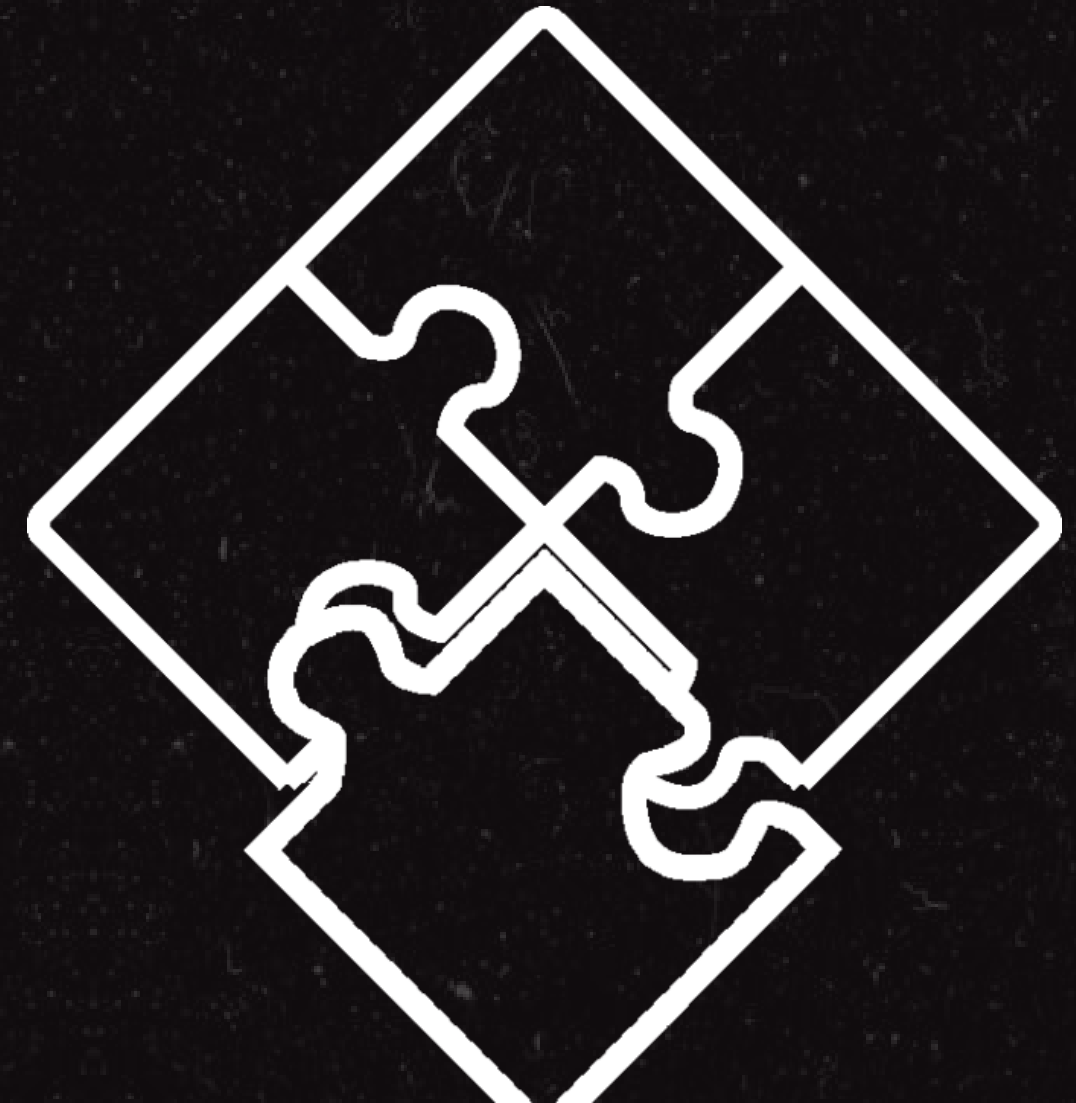
- If we implement MINDWAVE, we potentially improve the mental health of 112mil individuals per month.

Key Features:

- Behavioural analysis based on social media usage
- Links vulnerable users to therapy (video/audio therapy, live consultation, etc.)
- Suggests helpful activities based on trend analysis

How we are fixing this:

- By identifying vulnerable behaviour on social media through sentiment analysis before the user's health depreciates
- MINDWAVE prompts targeted suggestions to all users, mitigating mental health issues



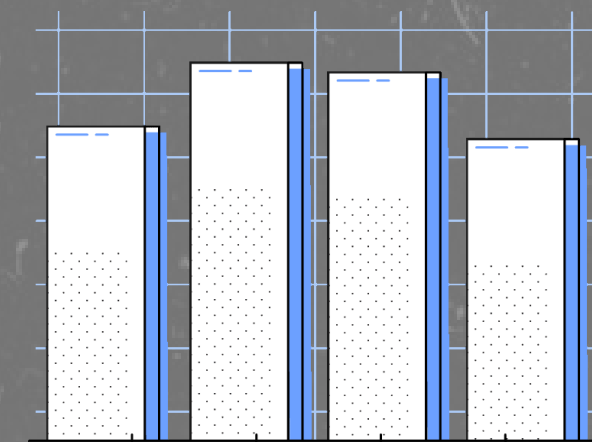
Assumptions

- Social media activity is an accurate reflection of an individual's mental health
- Sentiment analysis algorithms are accurate in detecting signs of depression.

Mitigation

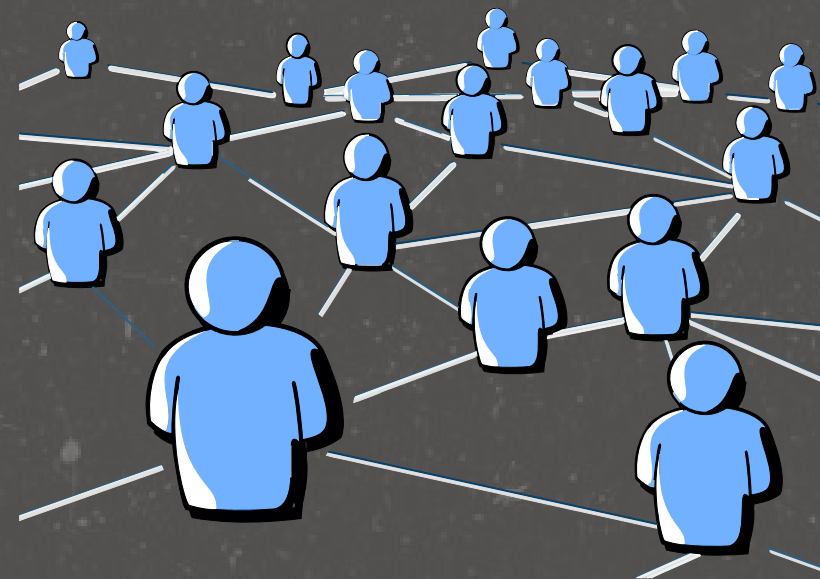


Cross-Checking

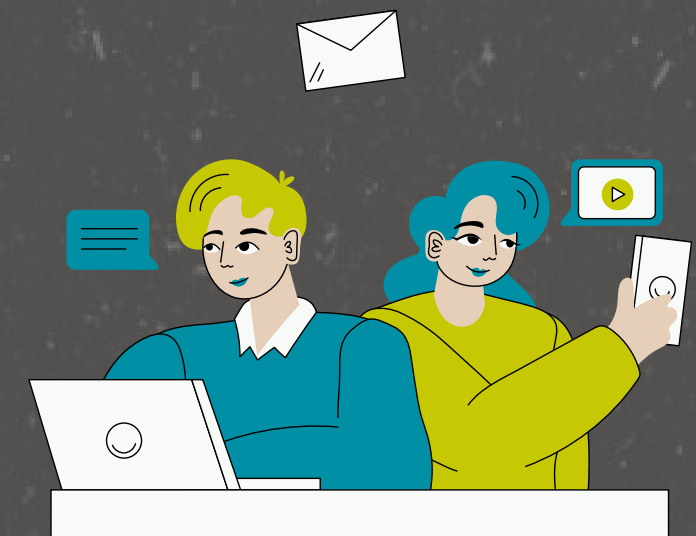


Banded Deviations

Community



Exponentially
increasing pool



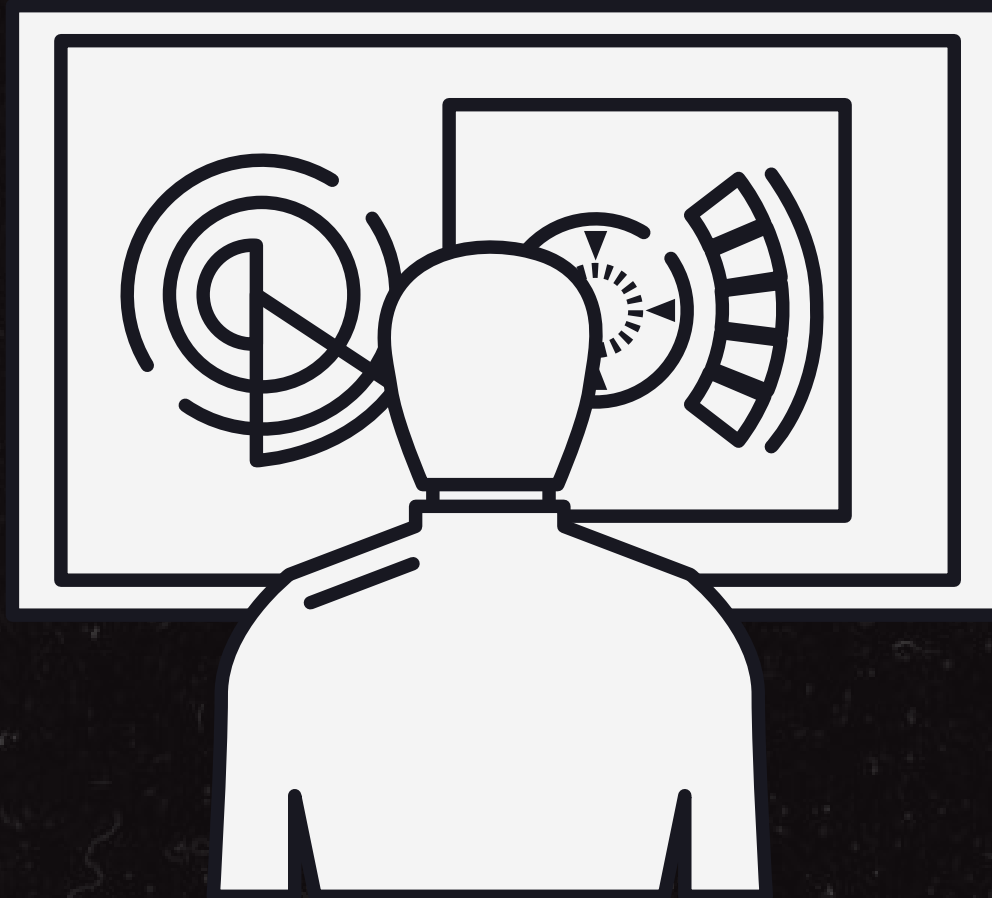
Loneliness, only
friend is Twitter

Monetization

- MINDWAVE will be offered as a monthly subscription model where mental health statuses will be provided to users
 - Users can monitor their mental health fluctuations over time
- Caretakers can purchase MINDWAVE to keep their dependents safe
 - Friends and family of vulnerable individuals
 - Teachers / Schools
 - Mental health facilitators, psychologists, etc.



Next steps



- Refining the model by incorporating other features in Twitter
 - retweets, shares, etc.
- Connecting MINDWAVE to different platforms (e.g. Instagram, search browsers, etc.)
 - Gaining a fully robust assessment of mental health through all online activity

PROTOTYPE PART 1

Twitter Sentiment Analysis

Username:

Analyze

Sentiment Analysis Result

Overall sentiment for agostinhozinga: -0.60

Mood Category

Anxious

- The demo is a web application that performs sentiment analysis on a Twitter user's tweets.
- The application is built using Python and Flask, a popular web framework for building web applications in Python.
- The application uses a CSV file containing Twitter data to perform sentiment analysis.
- The CSV file is read into memory when the application starts.
- When a user enters a Twitter username and clicks the "Analyze" button, the application calculates the sentiment of the user's tweets using the TextBlob library, which is a popular library for processing textual data.
- The sentiment score is calculated by taking the average sentiment of all the tweets for the given user.
- The sentiment score is then displayed on the web page as a message indicating the overall sentiment for the user's tweets.
- If no tweets are found for the given username, the application displays a message indicating that no tweets were found.
- The application also includes some basic styling using CSS to make the web page look more presentable.
- The application is deployed locally on the user's machine and can be run by executing the Python script using the command line.

PROTOTYPE PART 2



The screenshot shows a web browser window titled "Depression Detector". The address bar shows the URL "127.0.0.1:5000/analyze". The main heading is "Depression Detector". Below it is a form with the label "Instagram Username:" followed by a text input field and an "Analyze" button. The results section is titled "Results for junctionx23" and shows a "Depression score: 0" and a green message: "This user is unlikely to be depressed." Below this is a section titled "Resources" with two bullet points: "[National Institute of Mental Health: Depression](\"#\")" and "[National Suicide Prevention Lifeline](\"#\")".

- The prototype is a web-based tool called Depression Detector.
- The tool takes an Instagram username as input, which is entered into a text field on a form.
- When the user clicks the "Analyze" button, the tool sends a POST request to the /analyze endpoint on the Flask server.
- The Flask server uses the Instagram API to retrieve information about the user's recent media items, including captions and comments.
- The server then analyzes the sentiment of the captions and comments using the NLTK sentiment analyzer and a set of stop words to filter out irrelevant words.
- If a post is deemed to have signs of depression, the sentiment score of that post is added to the user's depression score. If not, the sentiment score is subtracted from the user's depression score.
- The server determines whether the user is depressed based on their overall depression score and returns this information to the client.
- The client then displays the depression score and whether the user is depressed or not, along with links to resources for depression and suicide prevention.

THANK YOU FOR LISTENING!