



IS6611-Final Business Plan for Mentegy (Group 2 Health)

IREOLUWA BENJAMIN-AYEYE (120224108)

EYOB ABRAHA (116373066)

SHAIVAL MEHTA (120220020)

JAYESH RAO (120220275)

RUGHMA RAVIKUMAR (120220798)

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Executive Summary

This is the business plan of Mentegy giving you an overview of all milestones of the organization's development in the next three years. Mentegy is a start-up technology firm, incorporated in Cork, Ireland. The sections of this report are divided up as follows: problem, product/service, market analysis, operations, intellectual property, financials and a conclusion.

Problem

The problem addresses the issue identified in the market and how Mentegy differentiates itself from competitors to aggressively penetrate opportunities through innovation, technical prowess and exquisite business acumen.

Following that, the product is described in depth from its inception, development and completion. The idea and inner workings of the application are illustrated using various examples and intuitive images.

Our Product

Our product will be a mainstream live monitoring tool showing predictions of growing hate trends for advanced strategic planning by authorities and emergency response teams. It will also provide policy makers information to promote or create additional policies to mitigate the spread of online hate-speech.

Market opportunity

The market opportunity for us is that social media platforms strategy in controlling hate speech is by shutting down of accounts while our strategy is to work with key stakeholders identifying locations for intervention against social violence. The idea is that if the major groups that constitute the community are brought together by the government the hate speech makers can get re-orientated towards a race, religion, or gender. The business future includes having an adaptive marketing strategy which will be adjusted by actively tracking the consumers. Collaborations will be diversified by approaching more government and non-government bodies and institutions.

Market Research

The target audience for Mentegy in the beginning are Third Level Institutions, local authorities and non-governmental organizations who are adamant to monitor situations in real-time to react proactively in contrast to passively. Mentegy's target customers will be third level institutions (86 in Ireland), local authorities (132 in Ireland) and non-governmental organizations (34,331 in Ireland) (Benefacts, 2021)

Market Trends

Ireland's Twitter users also show considerable growth predicting more than 75 percent of Ireland's population will be using Twitter by the year 2025. A constant growth can be observed

from Twitter users of Ireland in 2017 by growing 27% to 40% of users in 2020. Hence, it can be concluded that the platform which has been chosen is targeted perfectly.

Target Market

Analysis of Target Market using the Bottom-up Approach (TAM)

YEAR 1	YEAR 2	YEAR 3	Average Revenue	Total Customer	Potential Revenue
153,000	306,000	765,000	408,000	34,549	€14.09B

Serviceable Available Market (SAM):

SAM

Average Revenue	Total Customer	Potential Revenue
408,000	19,654	€8.02B

Serviceable Obtainable Market (SOM):

SOM

Average Revenue	Total Customer	Potential Revenue
408,000	5,394	€2.20B

Management team

We are a team of five people with various experience ranging from finance, software development, and business analysis.

Name	Designation
Jayesh Rao	Managing Director
Eyob Abraha	Deputy Managing Director
Shaival Mehta	Chief Information Security Officer
Rughma Ravikumar	Chief Technology Officer
Ireoluwa Benjamin-Ayeye	Director of Sales

Financial projections

	Year 1	Year 2	Year 3
Sales	139,600	279,200	698,000

Expenses	346,377	356,733	363,968
Net Profit before Tax	(206,777)	(77,533)	334,032
Investment	0	0	50,000
Employment	5	5	6

Funding requirements

We will require funding for Staffing, Research & Development, Marketing, and Equipment

The Problem:

Clearly describe the problem that exists that you are solving:

The problem that is being addressed by this research project is the issue of persistent and unmonitored spread of online hate speech in particular xenophobic rhetoric. This social media content (Twitter) has the potential to instigate “adverse mental and physical health repercussions” (Dr. Lucy Michael, 2021). This was exemplified by expert Dr. Lucy Michael a lead analyst on the online web platform iReport.ie in which users can report instances of racism/xenophobic speech encountered online.

In Ireland according to iReport “594 social media incidents” (Michael, 2020) were reported in comparison to “174 in 2019” (Michael, 2020). The sharp increase demonstrates people are being targeted and thus made to feel vulnerable inciting a “public health disorder” according to analyst Dr. Michael in which the environment becomes toxic and tense emitting an antagonistic aura. Further afield perceiving an international perspective a peak in 2016 was illustrated in Germany with “250 social media posts leading to approximately 150 violent incidents” (Quinn, 2019) against people of minority. Furthermore, the proliferation of online cyberhate has “an estimated \$3.7 billion in health costs and lost income” (Institute, 2019) illustrating the financial consequences of the problem. With this negative trajectory and the number of overall social media users set to increase to “4.41 billion” (Baron, 2021) by “2025” (Baron, 2021) this issue will continue to be a hazard in society.

Describe why current solutions do not solve the problem:

Firstly, the artificial intelligence used in current systems has difficulty in instances to classify unsolicited speech as “there is no universally accepted definition of hate speech” (Kovács, Alonso and Saini, 2021). For this reason, current solutions such as Mandola and iStreetWatch predominately focus on reporting rather than taking a proactive approach to hate speech monitoring.

Secondly, another issue with current solutions is the predicament with “imbalanced data” (Brownlee, 2020). The technology applied in these systems will only be as effective as the training data used is representative, relevant and accurate for the system proposed. As a result, current applications such as HaterNet experience issues as they code their system using

“corpus” (Quijano-Sanchez, Kohatsu, Liberatore and Camacho-Collados, 2019) of data. Instead at Mentegy, the application is developed using various machine learning algorithms and cross validated to prove accuracy. The application can then make its own decisions regarding hate speech content rather than rely on previously learnt dictionary of words or sentences thus taking a predictive approach. Thirdly, current solutions in the UK are not “sophisticated” (Dr. Lucy Michael, 2021) enough to manage vast amounts of data and do not provide the insights/visualisations needed to make operational and strategic decisions that Mentegy provides.

Finally, solutions such as the Southern Poverty Law Centre system, are predominantly US based solutions that provide a different angle to hate speech monitoring focusing specifically on hate groups such as white supremacy affiliates. In addition, this tool is a reporting mechanism rather than an active real-time monitoring solution. Thus, the application relies heavily of user input, and this can be detrimental to the function of the app as up to “60%” (Dr. Lucy Michael, 2021) of people do not feel the need to report instances of hate speech.

Product or Service:

What are you proposing to do

The proposal is to build a tool that gradually transforms how the reporting of xenophobic hate speech incidents are handled currently. According to the Irish Network Against Racism (INAR) only 1 in 6 people report racist events as and when they experience them. One of the major reasons for such low reporting is “denial” as suggested by Dr. Micheal (Dr. Lucy Michael, 2021). The victim is in denial that such an unpleasant experience can happen to them. Reporting the incident makes the person go through the same traumatic experience as they have to remember it again. Helen McEntee TD, the Minister of Justice suggests that victims of hate crimes are made to feel terrified for theirs and the future of their loved ones and therefore in many cases the victims do not come forward to report it. (Department of Justice, 2020)

The idea behind Mentegy considers these frictions that result in low reporting rate and aims at assisting the detection of hate speech incidents in an area. Mentegy leverages the data that is being unceasingly created on social media platforms and uses a sentiment analysis algorithm to separate the hate text from social media (Twitter). The incoming hate text and the resulting sentiment scores trains the model constantly to further increase the accuracy of detection. Hate speech will be categorized into incitement that encourages harm to a particular group/person and direct verbal attacks intended to cause serious harm. The latter will be given higher priority and the authorities will be alerted to initiate legal action against the perpetrator.

How is this different to what is currently available on the market, or how does it improve on the current offerings:

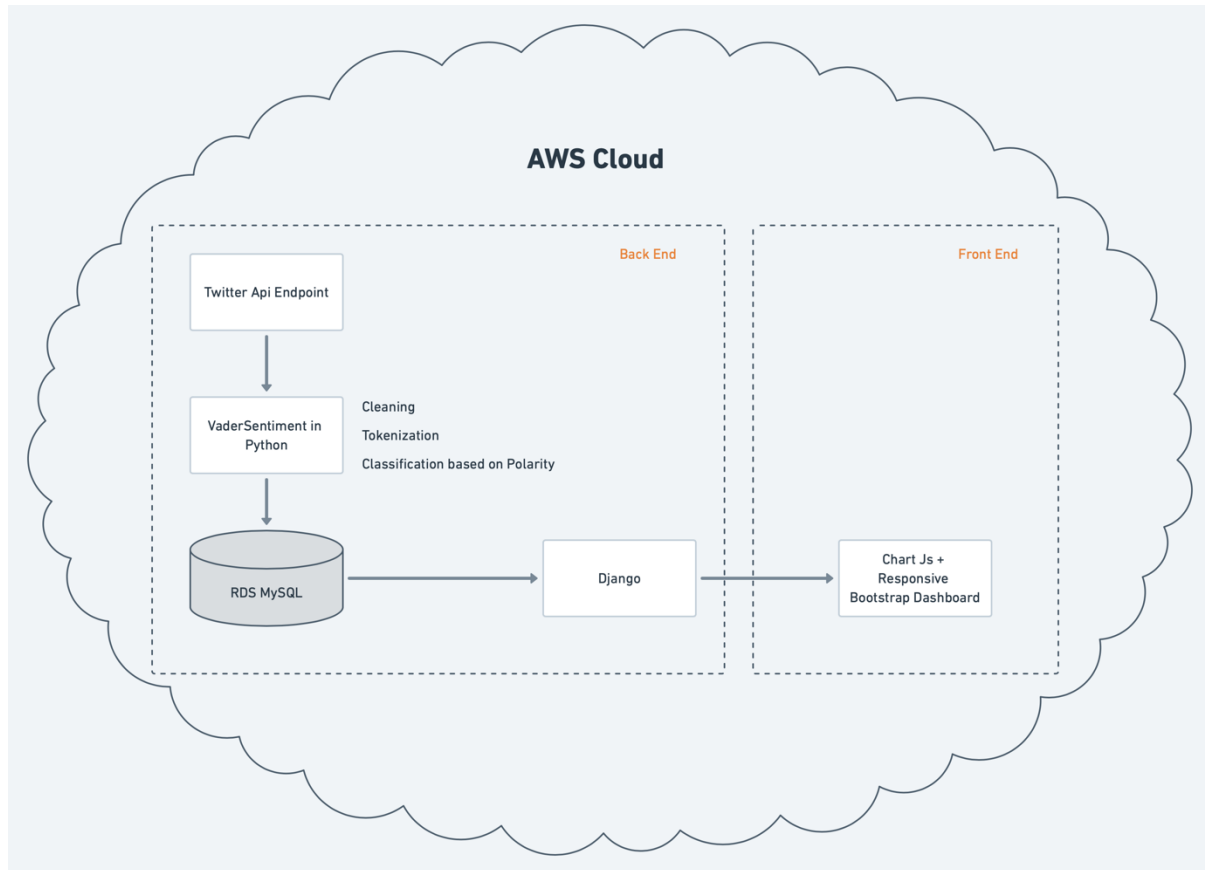
Currently, the tools or services available in the market like the iReport and iStreetWatch relies completely on user discretion. Those affected or witnessing hate crimes need to manually

report discrimination, racist crimes and far-right activities online on iReport along with pieces of evidence like screen grabs, videos etc. The data on racism collected because of these reports are then analysed and annual reports are generated. These reports are then sent to the UN, European bodies, Government and policymakers lobbying for a change (iReport.ie). iStreetWatch on the other hand is a self-defence training website by the Migrant Rights Network that promotes reporting of xenophobic and racist crimes. The data based on these reports are then marked on a map to notify travellers about unsafe zones to take charge of the environment hostile for immigration (New Europeans.net, 2017).

One of the major challenges with these tools is their reactive nature to hate crimes. The data collected by these tools reflect xenophobic and racist crimes that have already taken place and anticipating a response to these crimes by the local authorities can be a long wait. Hate crime prevention remains the major target for Mentegy. If Hate Speech forms the top of the pyramid, then Hate Crime is present towards the base which is a grave offence even according to the present law. Mentegy takes major steps towards minimizing this touchpoint of manual reporting by the victims and introduces automatic detection of hate speech on social media platforms. Mentegy, unlike the MANDOLA proof of concept, aims at Ireland and the UK to have a better societal context while detecting hate speech. There can be disparate interpretations of hate speech across languages and cultures around the world which remains a major challenge for other hate speech detection tools playing at a global level.

Explanation of the core product or service:

Mentegy is a live hate speech monitoring application that scrapes data from social media (Twitter), performs sentiment analyses (predictive analytics) on it using supervised learning models and shows the insights on a dashboard (descriptive analytics) for the authorities to make informed decisions. The following flowchart depicts the technologies that give life to Mentegy.



Data Source: Twitter API v2 endpoint is used to obtain precise, complete and unbiased data from the public conversation. Twitter Academic Research access to the API ensures live stream as well as historical access to the public tweet data with a monthly cap of 10 million tweets. Rules are used to filter the live stream to obtain the tweets niche to Mentegy’s use case. The rules include a corpus of keywords generated based on the influential xenophobic and racist hate speeches in the past. To focus on the hate speech in the target area, attributes like the geo-tag and point radius are added to the rules. Python is used as a primary programming language to access the API, add the necessary rules and pre-process the data hence obtained.

Sentiment Analysis: Mentegy uses VADER (Valence Aware Dictionary and sEntiment Reasoner) as a lexicon and rule-based sentiment analysis model. VADER is specifically trained using the sentiments expressed on the social media and is therefore benefit for the research. The model takes in the text for the tweet as an explanatory variable and its sentiment score is the target variable. The valence scores of each word in the text is calculated which categorizes it into positive, negative and neutral. The model has been trained previously to identify contradictions as negations, utf-8 encoded emojis, emoticons, intensity boosting and dampening words, usage of punctuations like exclamation to increase sentiment intensity and the usage of word-shape like ALL CAPS words. The scores calculated for each word as a result is then summed, tuned as per the rules and normalized such that they are between -1 and 1 which then would be the compound score for the tweet text.

VADER has been tested for accuracy using a test dataset that has 100 racist and xenophobic tweets manually marked positive and negative. The polarity of the tweets is then calculated by

inputting it into the model and the prediction obtained are compared with the previously marked results using a confusion matrix as seen below.

```
> confusionMatrix(as.factor(tdata$test),as.factor(tdata$Hate))
Confusion Matrix and Statistics

              Reference
Prediction No  Yes
   No      26    9
   Yes     29   35

              Accuracy : 0.6162
              95% CI   : (0.513, 0.7122)
   No Information Rate : 0.5556
   P-Value [Acc > NIR] : 0.132733

              Kappa    : 0.2565

   McNemar's Test P-Value : 0.002055

              Sensitivity : 0.4727
              Specificity : 0.7955
   Pos Pred Value   : 0.7429
   Neg Pred Value   : 0.5469
   Prevalence       : 0.5556
   Detection Rate   : 0.2626
   Detection Prevalence : 0.3535
   Balanced Accuracy : 0.6341

   'Positive' Class : No
```

The confusion matrix shows the higher false positives at 29 but lower false negatives at 9 which means that the model has higher probability of marking a non-hate tweet as hate than marking a hate-tweet as non-hate which is favourable as the latter is a more serious error in this use case. The overall accuracy of the model is 61.62% having a 95% confidence interval of 51.3% and 71.22%.

The rule-based tweet scraping and sentiment analysis forming the core of the application is coded in Python and is running on an EC2 t3.micro instance on the Amazon Web Services public cloud.

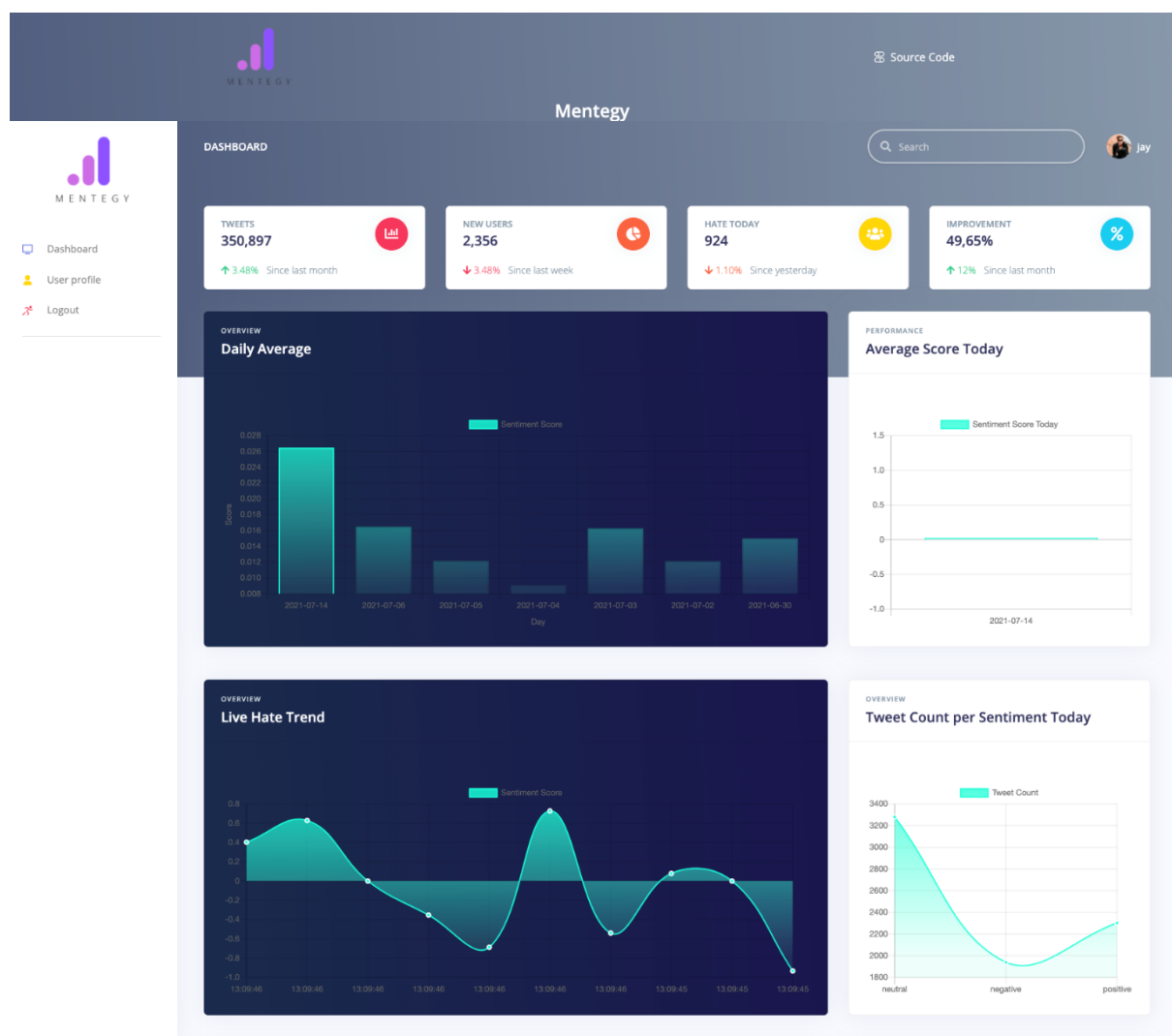
Database:

Mentegy uses an RDS instance with MySQL Community database engine on the Amazon Web Service cloud for storing the tweet data and the sentiment scores. RDS provides regular automated backups and instantaneous restore thereby increasing the fault tolerance of the application. The 'pymysql' library in Python provides the functions to connect to the database host and insert the data using standard SQL syntax. The sentiment scores are

calculated for the live twitter stream and are inserted along with the tweet metadata as they come in, into the database.

Application:

Mentegy uses the Django framework of Python as the backend of the web application that consumes the data and performs descriptive analytics concerning to the end user. Django provides inbuilt features that provide session handling and authentication that can be leveraged to secure the access to the application hosted publicly. Presence of Object Relational Mapping (ORM) ensures that the deployment of the application is faster and error free as the database schema is automatically created based on the models explicitly created in the code. The data is fetched from the database by Django and Chart JS library is used to create an interactive dashboard displaying different metrics like the present hate speech status in an area and the comparative analysis of the hate scores during the past week. Following are some screenshots from the application.



Dashboard

Hosting: The public ipv4 address of the EC2 instance and the port Mentegy is running on is mapped to the domain name in the Route 53 Service of the AWS. Mentegy can be accessed on <http://mentegy.org>

Stages of development:

The whole Journey of Mentegy started from February to July. All the different stages of development, the innovation and failures will be discussed in this section.

During February, the initial focus was towards the idea of each group members. Understanding each other ideas gave all the group members a platform to discuss the further steps. Then, the individual idea summaries and simultaneously working towards the workflows gave the group members more understanding regarding the other components. Later in February, technologies and executive summary was the priority to be looked towards, which can help all the group members to be bounded on certain areas.

After the feasibility study, the initial priority was analysing libraries and Twitter scrapping which best suits our service and has enough potential in terms of accuracy. vaderSentiment analyser has been used for the sentiment analysis which gives positive, negative, neutral and the compound score. Furthermore, after sentiment analysis different algorithms were being tested to know the efficiency and accuracy of the prediction model.

During the later stages, as the live Twitter streams were being extracted, there was a need for shifting all the services to the cloud platform to keep the application code running 24x7. Hence, all the Mentegy's components were shifted to the AWS cloud. Continuing further progress, all the tweets' data were being displayed on the live visual representation of the dashboard. The Dashboard shows the compound score based on days, minutes, and seconds. The granularity has been focused and hence, tweets score based on seconds are also being displayed on the dashboard. To understand a certain impact or changes in the Twitter, daily tweets data give more insights.

Finally, a domain name was purchased and mapped to the EC2 IP address and port number the application was running on such that it could be accessed publicly.

Future plans:

The future plans include advancing both technically as well as a business. Technical future scope includes creating a custom sentiment analysis model that is trained specifically to the needs of the niche category of xenophobic hate speech received by Mentegy. Ensemble learning will be used in which multiple sentiment analysis models will be combined to further improve the classification and prediction. In addition to Twitter, other social media platforms like Facebook and Instagram would be scraped for hate comments to further widen Mentegy's efficacy. Descriptive analysis will be performed on the past tweet data to further understand the trends and seasonality of the hate scores to optimize response during future incidents.

The business future plans include having an adaptive marketing strategy which will be adjusted by actively tracking the consumers. Collaborations will be diversified by approaching

more government and non-government bodies and institutions. The research and development would be sufficed by applying for funding by the Rights, Equality and Citizenship Programme of the European Commission and other sources.

Market Research:

Describe the market research carried out, the market being targeted, the market size, market share being targeted, and number of possible customers:

Market research in this domain has been carried out through a number of mediums primary and secondary namely surveys, questionnaires, interviews, messaging on LinkedIn and market observations. The team initially utilised surveys and questionnaire to gauge enthusiasm about a potential service that can monitor hate speech on social media in real-time. This was carried out by creating google surveys and emailing the surveys/questionnaires to potential customers. The responses recorded allowed the team gain perspective from the customer's viewpoint to develop the application in such a way to make it appealing to the user. This included incorporating bar charts/in the application that were the most popular graphical representations chosen by users.

Moreover, the team engaged with potential customers through LinkedIn such as the Irish Refugee Council who were immensely interested in the application that was being developed. Thus, this helped to create the system to further specification of the user.

Furthermore, an interview with relevant stakeholder Dr. Lucy Michael was completed virtually. This allowed the team to understand the eco-system of the market profoundly and connotations to consider before penetrating the market with a new service. As a result, the customer base and application features needed to capture market share were implemented in the beta prototype in order to provide a solution that can mimic a final product.

The target audience for Mentegy in the beginning are Third Level Institutions, local authorities and non-governmental organizations who are adamant to monitor situations in real-time in order to react proactively in contrast to passively. In the future further markets incorporating corporate organizations, individuals, and parliamentarians who are desirous in controlling the spread of hate speech and putting effective structures in place in respecting human rights and equality will also be targeted. This is in line with the advice given from Martin Dunlea and Dr. Lucy Michael who envisage a global wide adaptation of such an application in various settings of society.

Mentegy's target customers will be third level institutions (86 in Ireland), local authorities (132 in Ireland) and non-governmental organizations (34,331 in Ireland) (Benefacts, 2021). We will engage with the institutions who are willing to track and stop hate speech. Going forward our strategy is to collaborate with these targeted customers to create self-awareness, self-management, decision making, relationship skills, and social awareness.

Market Description:

Reasoning for this target market:

The reasoning for Mentegy's profiling targeted at Third Level Institutions, local authorities and non-governmental organizations is that there is sufficient evidence garnered from market research that these domains are in need for an application like Mentegy.

These institutions according to our interviewee Dr. Lucy Michael are lacking in real-time intelligence to monitor situations that have the potential to aggravate into serious circumstances. For example, Dr. Lucy Michael alluded to the fact local authorities are using legacy systems that do not possess the technical advances such as predictive analytics to assist in crucial operational and strategic decision-making.

Is there evidence of a real international business opportunity? If so, describe:

There certainly is an international business opportunity with Mentegy. There are various features and components of the application that can be modified to attract a larger consumer base. For example, the language options and algorithms can be proliferated in order to adaptively use the system across Europe, Asia and Africa. With the number of social media users set to increase dramatically over the next couple of years the data collected will be more of essence to users.

By recommendation given from the Martin Dunlea and Dr. Lucy Michael this system can be utilized in several environments across organizations and institutions who are trying to measure the hate speech temperature in line with current reporting systems on the market such as iReport and Mandola. Furthermore, our stakeholder Dr. Michael who works with authorities in the UK explained to the team that there is a strong use case for this application abroad as she has seen tools used that have been unsuccessful so far that lack the technical exuberance of this application in terms of their visualisation and statistical capabilities in real-time.

Market Trends:

A platform where people can share their ideas, information and thoughts is social media. A platform where a person can come across informational things like news, important updates and conversely a place where hatred can be spread and targeted to certain individual or a community. It is a medium where anyone can have their own say, they can be critical or influential at the same time. Out of all the social media, Twitter stands out among all due to its number of users as well as the interface or it can be said that it was the main idea behind creating Twitter i.e., reaching out to thousands and millions of people. According to a statistic, there are total 192 million daily active Twitter users of which 500 million tweets are sent out daily. (10 Twitter Statistics Every Marketer Should Know in 2021)

Ireland's Twitter users also show considerable growth predicting approximately more than 75 percent of Ireland's population will be using Twitter by the year 2025. A constant growth can be observed from Twitter users of Ireland in 2017 by growing 27 percentage to approximately 40 percentage of users in 2020. Hence, it can be concluded that the platform which has been chosen is targeted perfectly.

Describe the trends or key issues affecting the market, or which are anticipated to affect your market:

There is not a single product or service, which works perfectly fine for any company, there are bugs or problems for each of them. Similarly, there are few things which might affect our company in terms of the market behaviour which will be discussed in this section.

Firstly, as Dr. Lucy Michael emphasized was lack of reporting by the individuals who suffer hatred against their community, cast or religion. People are afraid due to two reasons: 1) What will society think, for example: People will feel that I am too weak, 2) There are very less organization or companies who also work after the issues are being reported. It has been observed that very less probability of cases is being solved and taken further to the next step, and not majority of them. This is one of the things which might affect our market, but we are here for a change and our service will try to mitigate these problems.

Secondly, considering the growth of Twitter users, our potential competitors will also have a big role to play. Their service might hinder our company's growth, new developments, new collaborations by our competitors will affect our market but as described earlier, this company is here for a change, and the challenges are very welcome, as it will help our company to be stronger and better in making a change.

Finally, as the users are going to increase, another challenge will be the efficiency of our service which might affect our market. More users lead to more languages, different lexicons, mixture of words, and slangs all these need to be understand and model should be built accordingly. Continuing further, more users will also lead to more hatred, and for that awareness campaigns needs to initiate to make country safe and peaceful.

Hence, all the above-mentioned factors might affect our market to change, but efficiency is the key here, which our company will focus more, and other small challenges will help to make our service better.

Barriers to Entry:

The business solution will be secured from similar competitors by incorporating several methods. Applying for a trademark will protect the service's "words, phrases, symbols, logos, or other devices used to identify the source of goods or services from usage by other competitors" (Waters, 2015).

In terms Intellectual Property Mentegy will apply for a software copyright. This will help the company to mitigate any technical infringements that may be performed by another party without consent. The software protection can "cover the specific code used in the program or elements in the user interface" (Thales, 2021). As Mentegy is developed in a certain mechanism using specifically written code protection for this endeavour can be obtained.

What prevents someone from opening the same business as yours and taking 50% of your business?

By answering the above question, if all big tech companies have thought that how will we survive in this era where the competitors have ample access to modern technologies then no one would have got the portable world in their pocket (i.e., Smart Phone) it is all about the efficiency and results of the service. Similarly, any companies have the right to innovate this service and make a huge sum of money as well, but our uttermost priority is the accuracy, efficiency, and make this country more peaceful. Also, to make progress in the direction our focus will be on protection of the service which will be carried out by implementing a reputation amongst consumers, robust customer acquisition, interaction and retention will secure loyalty and repeat purchases of the service.

The proposed solution will be successful in attempting to penetrate the market as the application will provide a distinguished service to other existing systems. The research conducted in the previous phases constitutes the need for an application that can be used by figures of authority to combat online spread of hate that has the potential inducement to trigger physical and mental distress among people of varying denominations.

An instance of an event of public disorder was the riot that occurred in Dublin causing injuries to citizens and members of the Gardai. In addition, the Taoiseach reiterated social media networks are being “used as a vehicle to advertise illegal gatherings” (Jones and Pope, 2021) and it is crucial to “take down harmful content” (Jones and Pope, 2021) invoking sincere violence and unrest. Thus, the solution proposed addresses a niche market that is ultimately in its formative years and as a result this opens the prospect to provide an applicable application to mitigate such events, alleviating both physical and mental challenges.

Market Research:

The target audience for Mentegy are Second & Third Level Institutions, corporate organizations, non-governmental organizations, individuals, and parliamentarians who are desirous in controlling the spread of hate speech and putting effective structures in place in respecting human rights and equality.

Mentegy’s target customers will be second & third level institutions and non-governmental organizations. There exist 86 third level institutions (Private and Government Funded), 132 local authorities. We will engage with the institutions who are willing to track and stop hate speech. Our strategy is to collaborate with non-governmental organizations to create self-awareness, self-management, decision making, relationship skills, and social awareness.

Total Available Market (TAM):

TAM refers to the overall market demand for a certain product or service. It is the maximum amount of revenue a business can possibly generate by selling their product or service in the targeted market.

The bottom-up approach has been used which refers to counting the total numbers of customers in the market and it will be multiplied to that number by the average annual revenue for Mentegy.

Calculation:

TAM can be calculated using bottom-up approach which involves counting the total number of the customers which are there in the market and it will be multiplied to that number by the average annual revenue of each customer in the market.

Analysis of Target Market using the Bottom-up Approach (TAM)

YEAR 1	YEAR 2	YEAR 3	Average Revenue	Total Customer	Potential Revenue
153,000	306,000	765,000	408,000	35,139	€14.34B

To indicate and prove all the costing on yearly basis, the entire table is being attached based on Profit and Loss accounts for the company.

Revenue	2021		2022		2023	
sign-up fees	8,400		16,800		42,000	
Mentegy app	37,800		75,600		189,000	
monthly subscription	33,800		67,600		169,000	
Training	30,000		60,000		150,000	
Consulting	43,000		86,000		215,000	
Product 6	-		-		-	
Total Revenue	\$ 153,000	100%	\$ 306,000	100%	\$ 765,000	100%
Cost of Goods Sold						
sign-up fees	-		-		-	
Mentegy app	8,400		16,800		42,000	
monthly subscription	-		-		-	
Training	-		-		-	
Consulting	-		-		-	
Product 6	-		-		-	
Total Cost of Goods Sold	8,400	5%	16,800	5%	42,000	5%
Gross Margin	144,600	95%	289,200	95%	723,000	95%
Payroll	166,635		166,635		166,635	
Operating Expenses						
Advertising	13,860		14,276		14,704	
Car and Truck Expenses	-		-		-	
Commissions and Fees	6,762		7,100		7,455	
Contract Labor (Not included in payroll)	-		-		-	
Insurance (other than health)	4,800		4,944		5,092	
Legal and Professional Services	13,000		13,390		13,792	
Licenses	-		-		-	
Office Expense	-		-		-	
Rent or Lease -- Vehicles, Machinery, Equipment	-		-		-	
Rent or Lease -- Other Business Property	18,000		18,540		19,096	
Repairs and Maintenance	2,400		2,520		2,646	
Supplies	1,400		1,442		1,485	
Travel, Meals and Entertainment	20,400		21,012		21,642	
Utilities	3,000		3,090		3,183	
Miscellaneous	8,100		8,343		8,593	
Other Expense 1	-		-		-	
Other Expense 2	-		-		-	
Total Operating Expenses	\$ 91,722	60%	\$ 94,657	31%	\$ 97,689	13%
Income (Before Other Expenses)	\$ (113,757)	-74%	\$ 27,908	9%	\$ 458,676	60%
Other Expenses						
Amortized Start-up Expenses	80,492		80,492		80,492	
Depreciation	1,943		1,943		1,943	
Interest						
Commercial Loan	4,845		4,275		3,651	
Commercial Mortgage	-		-		-	
Credit Card Debt	-		-		-	
Vehicle Loans	-		-		-	
Other Bank Debt	-		-		-	
Line of Credit	643		6,325		7,160	
Bad Debt Expense	-		-		-	
Total Other Expenses	\$ 87,922	57%	\$ 93,034	30%	\$ 93,245	12%
Net Income Before Income Tax	\$ (201,680)	-132%	\$ (65,126)	-21%	\$ 365,430	48%
Income Tax	\$ -		\$ -		\$ -	
Net Income/Loss	\$ (201,680)	-132%	\$ (65,126)	-21%	\$ 365,430	48%

Serviceable Available Market (SAM):

There are certain limitations when leading to the mission models such as the geographic limitations or specialization, thus it is unlikely to be able to serve the total addressable market. Serviceable addressable market is most useful for businesses to objectively estimate the portion of the market they can acquire to determine their targets.

Calculation:

SAM can be calculated by counting all the potential customers that can be a perfect fit for the business and it will be multiplied to that number by the average annual revenue of the types of customers in the market.

Serviceable Obtainable Market (SOM):

It can be said that 100% of the serviceable addressable market cannot be captured unless it is a monopoly. If there is only single competitor, then also it is very difficult to convince the entire market to only buy from our company or use our service. Thus, it is difficult to measure the serviceable obtainable market to determine how many customers would benefit from buying our service.

Calculation:

SOM can be calculated by dividing the revenue from last year by the serviceable addressable market from the previous year and it can be referred as the percentage of the market share from the last year. Furthermore, it can be multiplied to the market share from the last year by the serviceable addressable market with this year.

Competitor Analysis

Competitor	Country	Objective
iStreetWatch	UK	Hate speech reporting tool Location Monitoring Tracking Harassments
Hater Net	Spain	Detect and analyse hate speech in twitter 6000 expert label tweets Several classification approaches Awareness on attack
HateBase Tracker	Ireland	Tracking hate speech on public platform Comparison of reported racist activities

Mandola	Ireland	7 partnerships with 6 different countries Build awareness Useful for ordinary people
---------	---------	--

Looking towards Mentegy's main competitors it was interesting to find that the iStreetwatch a UK based hate speech monitoring tool is being relaunched by the government for checking the spread of hate speech in social media.

They do provide a location monitoring map on the analysis of the hate speeches reported which helps to track harassments and violence happening in the social media.

One of their limitations is the lack of people voluntarily reporting hate speeches.

Secondly, in Spain the government has been using a tool which detects the spanish language and determines the hate speeches from twitter. Such a tool gives us a healthy competition and they have labelled around 6000 tweets through a classification approach. Thus, helping the government to spread awareness on threats and attacks.

The major drawback of the system is that the tool works well with Spanish language, thus restricting its scope to only limited locations.

Moreover, Mandola is a hate detection and monitoring tool where they detect hate speeches from various URLs, sites and media and monitor them on sentiment analysis. They have been funded by the Rights, equality and citizenship programme of European commission.

They have seven partnerships over 6 different countries (Greece, Ireland, France, Spain, Bulgaria, Cyprus). They process in such a way that the citizens reporting hate speech will be contacted by the concerned authorities.

They provide a useful tool for the ordinary citizens. They do help to build an awareness of the hate speech spread according to which actionable information and policies can be made.

The main barriers they face is to determine illegal hate speech.

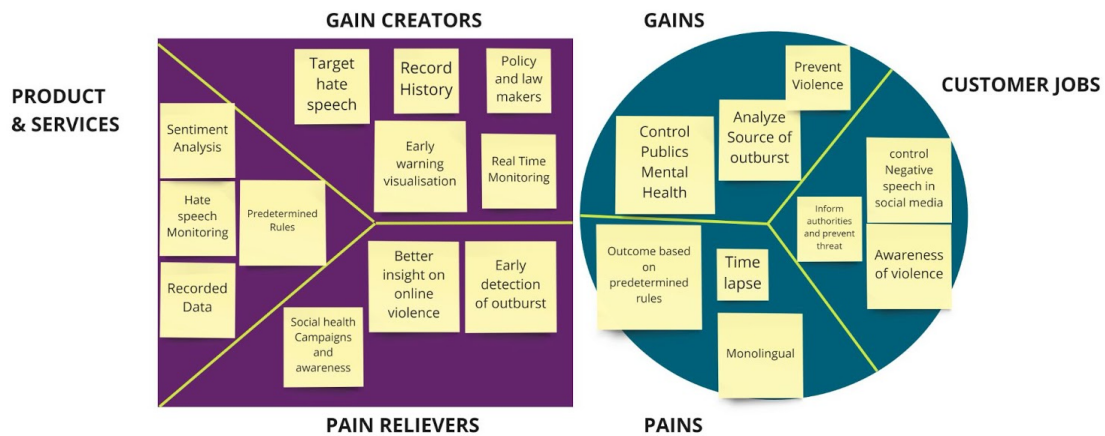
Hatebase tracker was a potential research done in Ireland, where a tracking tool was established based on twitter and Facebook data for a particular period. They helped to showcase a comparative study on the reported racist activities.

The limitations for the tool were that it was assigned only for a particular period and had a non-user-friendly interface.

On the other hand, despite all our competitors we will be unique with our user-friendly dashboard, real time analysis, rule-based monitoring. Which are all the keystones for our projects and help in the growth of mentegy.

Customer value proposition

Value Position Canvas



On evaluating Mentegy's customer value proposition chart it's understood that it is a hate speech monitoring tool which analyses violence with a set of predefined rules and data. The major gain of such a system is that the concerned authorities will be able to get a real time monitoring of hate speeches which works like an early warning of attacks through visualisation. Mentegy will also play a powerful role of making policies and laws based on the analysis that was made by the platform. The data can be used in making campaigns to spread awareness of mental health among the public.

The customers will be able to control the negative speeches that have been spreading in the social media and analyse the source of an outburst before occurring. Through which the public's mental health is controlled. There can be some setbacks of this platform for the customer as it's a monolingual application and in the next phase many more languages will be cooperated as per customer requirements. If there has been a timelapse between each tweet that can be visualised in the platform. The application does provide a customised rule-based analysis as it works fully based on the predetermined keywords.

Marketing

It is noted that we will be having an increasing trend for our sales for all the three years, which includes the money that we achieve through subscription, training and consultations.

The expenditure is also showing an increasing trend where there is more money to be spent on the areas of advertisements, inventories and hosting for earning a profit.

From the initial years Mentegy will be trying to get new clients from the existing and also to provide small scale advertisements in the platforms like google ads which will help to make the companies reach to a more crowd. We will be trying to meet clients in person and present them about Mentegy which can build in more trust thus increasing the percentage of purchase.

The net profit with respect to the sales and expenditure predicts that in our year 1 to 2 we will be facing a market loss. The reasons due to which we are in such a situation is mainly because we are new to the world of business, choosing clients and closing a sale initially can be a struggle. We will be having less promotion activities in the initial years. On moving forward to the third year we will be able to reach our goals and gain profit.

Furthermore, on checking the investments we are going on a loss and hence we won't be able to invest ourselves in any other areas. But in the third year we have started to earn profit which will help us to invest our profit rates to various other fields and also for the growth of the company.

Staffing and Operations

Staffing

We will maintain current staff structure for 2 years after which a help desk officer, business developer, and software developer will be hired in the third year.

Name	Designation	Shareholding	Cash Investment
Jayesh Rao	Managing Director	20%	20,000
Eyob Abraha	Deputy Managing Director	20%	20,000
Shaival Mehta	Chief Information Security Officer	20%	20,000
Rughma Ravikumar	Chief Technology Officer	20%	20,000
Ireoluwa Benjamin-Ayeye	Director of Sales	20%	20,000
HateSpeech International	Donor		50,000
Peace Tech Labs	Donor		50,000
United Nations Alliance of Civilizations UNAOC	Donor		50,000
Enterprise Ireland	Donor		50,000

The listed donors are organizations that provide grants to hate speech advocacy and technology start-ups.

Salary Growth

We will maintain the same salary scale for the next three years

Employee Types	Year 1 Totals	Growth Rate 1 to 2	Second Year	Growth Rate 2 to 3	Third Year
Owner(s)	135,000		135,000		135,000
Full-Time Employees	-	20.0%	-	30.0%	-

Part-Time Employees	-	10.0%	-	30.0%	-
Independent Contractors	-	3.0%	-	3.0%	-
Total Salaries and Wages	135,000		135,000		135,000
Payroll Taxes and Benefits					
Universal Social Charge	3,375		3,375		3,375
PAYE	27,000		27,000		27,000
Pay Related Social Insurance	210		210		210
Lump Sum Pension	1,050		1,050		1,050
Employee Pension Programs	-	0.0%	-	0.0%	-
Worker's Compensation	-	3.0%	-	3.0%	-
Employee Health Insurance	-	3.0%	-	3.0%	-
Other Employee Benefit Programs	-	10.0%	-	10.0%	-
Total Payroll Taxes and Benefits	31,635		31,635		31,635
Total Salaries and Related Expenses	166,635		166,635		166,635

Increment in salary will be implemented after three years when there is a breakeven.

Tax Assumptions

Payroll Taxes and Benefits	Percentage of Salary/Wage
Universal Social Charge	3%
PAYE	20%
Pay Related Social Insurance	1%
Lump Sum Pension	3%
Employee Pension Programs/	0
Worker's Compensation	0
Employee Health Insurance	0
Other Employee Benefit Programs	0
Total Payroll Taxes and Benefits	26%

NB: The tax assumptions are based on public sector payslip as published by IPS Financial Advice.

Training Plans

We have designated an average of 3 training program in a year for the organization for upskilling.

Operations

Below is the operating cost for the first year and three years growth expense:

Operating Capital	Amount
Salaries and Wages	€135,000
Prepaid Insurance Premiums	€49,800
Inventory	€2,100
Legal and Accounting Fees	€13,000
Rent Deposits	€18,000
Utility Deposits	€3,000
Supplies	€1,400
Advertising and Promotions	€13,850
Licenses	€6,000
Other Initial Start-Up Costs	€1,425

NB: All operating capital assumptions were obtained from payscale, study and protect (Insurance), daft.ie, argos, accountantonline.ie, and businessandlegal.ie

Line Item	2021	Growth Rate 1 to 2	2022	Growth Rate 2 to 3	2023
Advertising	13,860.00	3%	14,275.80	3%	14,704.07
Car and Truck Expenses	-	3%	-	3%	-
Commissions and Fees	6,762.00	5%	7,100.10	5%	7,455.11
Contract Labor (Not included in payroll)	-	3%	-	3%	-
Insurance (other than health)	4,800.00	3%	4,944.00	3%	5,092.32
Legal and Professional Services	13,000.00	3%	13,390.00	3%	13,791.70
Licenses	-	5%	-	5%	-
Office Expense	-	3%	-	3%	-
Rent or Lease -- Vehicles, Machinery, Equipment	14,380.58	3%	14,812.00	3%	15,256.36
Rent or Lease -- Other Business Property	18,000.00	3%	18,540.00	3%	19,096.20
Repairs and Maintenance	2,400.00	5%	2,520.00	5%	2,646.00

Supplies	1,400.00	3%	1,442.00	3%	1,485.26
Travel, Meals and Entertainment	20,400.00	3%	21,012.00	3%	21,642.36
Utilities	3,000.00	3%	3,090.00	3%	3,182.70
Miscellaneous	8,100.00	3%	8,343.00	3%	8,593.29
Total Expenses	106,102.58		109,468.90		112,945.37
Other Expenses					
Depreciation	1,942.86		3,800.00		7,692.86
Interest					
Commercial Loan	4,845.10		4,274.96		3,651.34
Commercial Mortgage	-		-		-
Credit Card Debt	-		-		-
Vehicle Loans	-		-		-
Other Bank Debt	-		-		-
Line of Credit	1,395.51		8,928.70		10,565.43
Bad Debt Expense	-				
Total Other Expenses	8,183.47		17,003.66		21,909.63
Total Operating Expenses	114,286.05		126,472.56		134,855.00

Financial Projections

- I Key Assumptions
- II Profit and Loss Accounts
- III Balance Sheets

- IV Cashflow
- V Breakeven Analysis
- VI Financial Ratios
- VII Cost of Goods Sold

I Key Assumptions

All figures used in the financials are in Euro currency.

- Income sources

Product Lines	Sales Price Per Unit
Sign-up fees	€ 100.00
Mentegy app	€ 450.00
monthly subscription	€ 100.00
Training	€ 7,500.00
Consulting	€ 41,500.00

NB: Cost of training and consulting were derived from patriotsoftware.com and thumbtack.com.

- Number of employees projected for each year and their intended salaries.

Employee Types	Number of Owners /Employees	Average Hourly Pay (to 2 decimal places, ex. €12.98)	Estimated Hrs./Week (per person)	Estimated Pay/Month (Total)
Full Time Employees	5	12.98	40	€11,250

- Creditor days expected and debtor days allowed.

Sources of Funding	Totals	Loan Rate	Term in Months	Monthly Payments
Commercial Loan	56,575	9.00%	84	910

Fixed Assets	Amount (€)	Depreciation (years)
Real Estate-Land	-	Not Depreciated
Real Estate-Buildings	-	20
Leasehold Improvements	10,000	7
Equipment	1,500	7
Furniture and Fixtures	1,500	5
Vehicles	-	5
Other		5
Total Fixed Assets	13,000	

II Profit & Loss Accounts

Revenue	2021		2022		2023	
Sign-up Fees	8,400		16,800		42,000	
Mentegy app	37,800		75,600		189,000	
monthly subscription	33,800		67,600		169,000	
Training	30,000		60,000		150,000	
Consulting	83,000		166,000		415,000	
Product 6	-		-		-	
Total Revenue	193,000	100%	386,000	100%	965,000	100%
Cost of Goods Sold						
sign-up fees	-		-		-	
Mentegy app	12,768		25,536		63,840	
monthly subscription	-		-		-	
Training	2,000		4,000		10,000	

Consulting	43,000		86,000		215,000	
Product 6	-		-		-	
Total Cost of Goods Sold	57,768	30%	115,536	30%	288,840	30%
Gross Margin	135,232	70%	270,464	70%	676,160	70%
Payroll	166,635		166,635		166,635	
Operating Expenses						
Advertising	13,860		14,276		14,704	
Car and Truck Expenses	-		-		-	
Commissions and Fees	6,762		7,100		7,455	
Contract Labor (Not included in payroll)	-		-		-	
Insurance (other than health)	4,800		4,944		5,092	
Legal and Professional Services	13,000		13,390		13,792	
Licenses	-		-		-	
Office Expense	-		-		-	
Rent or Lease -- Vehicles, Machinery, Equipment	14,381		14,812		15,256	
Rent or Lease -- Other Business Property	18,000		18,540		19,096	
Repairs and Maintenance	2,400		2,520		2,646	
Supplies	1,400		1,442		1,485	
Travel, Meals and Entertainment	20,400		21,012		21,642	
Utilities	3,000		3,090		3,183	
Miscellaneous	8,100		8,343		8,593	
Other Expense 1						
Other Expense 2						
Total Operating Expenses	106,103	55%	109,469	28%	112,945	12%
Income (Before Other Expenses)	(137,506)	-71%	(5,640)	-1%	396,579	41%

Other Expenses						
Amortized Start-up Expenses	80,492		80,492		80,492	
Depreciation	1,943		3,800		7,693	
Interest						
Commercial Loan	4,845		4,275		3,651	
Commercial Mortgage	-		-		-	
Credit Card Debt	-		-		-	
Vehicle Loans	-		-		-	
Other Bank Debt	-		-		-	
Line of Credit	1,396		8,929		10,565	
Bad Debt Expense	-		-		-	
Total Other Expenses	88,675	46%	97,495	25%	102,401	11%
Net Income Before Income Tax	(226,181)	- 117%	(103,136)	-27%	294,178	30%
Income Tax	-		-		-	
Net Income/Loss	(226,181)	- 117%	(103,136)	-27%	294,178	30%

III Balance Sheets

ASSETS	2021	2022	2023
Current Assets			
Cash	8,951	48,467	429,438
Accounts Receivable	-	-	-
Inventory	2,100	2,100	2,100
Prepaid Expenses	160,033	80,017	-

Other Initial Costs	950	475	-
Total Current Assets	172,034	131,059	431,538
Fixed Assets			
Real Estate -- Land	-	-	-
Real Estate -- Buildings	-	-	-
Leasehold Improvements	10,000	10,000	10,000
Equipment	1,500	3,500	6,000
Furniture and Fixtures	1,500	1,500	1,500
Vehicles	-	-	-
Other	-	-	-
Total Fixed Assets	13,000	15,000	17,500
(Less Accumulated Depreciation)	1,943	5,743	13,436
Total Assets	183,091	140,315	435,601
LIABILITIES & EQUITY			
Liabilities			
Accounts Payable	-	-	-
Commercial Loan Balance	50,497	43,849	36,578
Commercial Mortgage Balance	-	-	-
Credit Card Debt Balance	-	-	-
Vehicle Loans Balance	-	-	-
Other Bank Debt Balance	-	-	-
Line of Credit Balance	58,775	125,783	134,163
Total Liabilities	109,272	169,632	170,741
Equity			
Common Stock	300,000	300,000	300,000
Retained Earnings	(226,181)	(329,317)	(35,139)

Dividends Dispersed/Owners Draw	-	-	-
Total Equity	73,819	(29,317)	264,861
Total Liabilities and Equity	183,091	140,315	435,601
Balance sheet in or out of balance?	-	-	-
	Balanced!	Balanced!	Balanced!

IV Cashflow (All figures in Euro)

Below is our three years cashflow:

Year 1: Cashflow.

Cash Flow Forecast Years 1-3													
Prepared By Company Name:													
Group 2 Mentegy													
	Year 1 Total:	July	August	September	October	November	December	January	February	March	April	May	June
Beginning Balance		8,950.86	-	-	-	7,924.90	-	23,451.85	11,287.70	1,123.55	20,959.39	14,795.24	10,631.09
Cash Inflows													
Cash Sales	193,000	2,200	2,600	5,200	36,000	9,000	93,200	15,800	17,800	49,800	21,800	23,800	108,800
Accounts Receivable	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cash Inflows	193,000	2,200	2,600	5,200	36,000	9,000	93,200	15,800	17,800	49,800	21,800	23,800	108,800
Cash Outflows													
Investing Activities													
New Fixed Asset Pur	-	166.67	166.67	166.67	166.67	166.67	166.67	166.67	166.67	166.67	166.67	166.67	166.67
Additional Inventory	-	-	-	-	-	-	-	-	-	-	-	-	-
Cost of Goods Sold	57,768.00	608.00	608.00	1,216.00	3,216.00	1,824.00	44,824.00	3,040.00	3,040.00	5,040.00	3,040.00	3,040.00	46,040.00
Operating Activities													
Operating Expenses	106,102.58	9,122.41	9,122.41	9,122.41	9,122.41	9,122.41	9,122.41	9,122.41	9,122.41	9,122.41	9,122.41	9,122.41	9,122.41
Payroll	166,635.39	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28
Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-
Financing Activities													
Loan Payments	10,922.88	910.24	910.24	910.24	910.24	910.24	910.24	910.24	910.24	910.24	910.24	910.24	910.24
Owners Distribution	-	-	-	-	-	-	-	-	-	-	-	-	-
Line of Credit Interest	1,395.51	391.83	484.73	635.25	773.50	773.50	838.55	838.55	838.55	838.55	838.55	838.55	838.55
Line of Credit Repaym	-	-	-	-	-	-	-	-	-	-	-	-	-
Dividends Paid	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cash Outflows	342,824.36	25,085.43	25,178.33	25,936.85	28,075.10	26,683.10	69,748.15	27,964.15	27,964.15	29,964.15	27,964.15	27,964.15	70,964.15
Net Cash Flows	149,824.36	22,885.43	22,578.33	20,736.85	7,924.90	17,683.10	23,451.85	12,164.15	10,164.15	19,835.85	6,164.15	4,164.15	37,835.85
Operating Cash Balance	-	13,934.57	22,578.33	20,736.85	7,924.90	9,758.19	23,451.85	11,287.70	1,123.55	20,959.39	14,795.24	10,631.09	48,466.94
Line of Credit Drawdc	58,775.22	13,934.57	22,578.33	20,736.85	-	9,758.19	-	-	-	-	-	-	-
Ending Cash Balance	-	-	-	-	7,924.90	-	23,451.85	11,287.70	1,123.55	20,959.39	14,795.24	10,631.09	48,466.94
Line of Credit Balance	-	72,709.79	95,288.12	116,024.97	116,024.97	125,783.17	125,783.17	125,783.17	125,783.17	125,783.17	125,783.17	125,783.17	125,783.17

Year 2: Cashflow.

	Year 2 Total	July	August	September	October	November	December	January	February	March	April	May	June
Beginning Balance		48,466.94	27,191.42	6,915.89	-	56,648.61	49,277.22	144,905.84	151,494.45	163,083.06	249,671.67	271,260.28	297,848.90
Cash Inflows													
Cash Sales	386,000	5,500	6,500	13,000	90,000	22,500	233,000	39,500	44,500	124,500	54,500	59,500	272,000
Accounts Receivable	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cash Inflows	386,000	5,500	6,500	13,000	90,000	22,500	233,000	39,500	44,500	124,500	54,500	59,500	272,000
Cash Outflows													
Investing Activities													
New Fixed Asset Pur	2,000.00	208.33	208.33	208.33	208.33	208.33	208.33	208.33	208.33	208.33	208.33	208.33	208.33
Additional Inventory	-	-	-	-	-	-	-	-	-	-	-	-	-
Cost of Goods Sold	115,536.00	1,520.00	1,520.00	3,040.00	8,040.00	4,560.00	112,060.00	7,600.00	7,600.00	12,600.00	7,600.00	7,600.00	115,100.00
Operating Activities													
Operating Expenses	109,468.90	9,412.11	9,412.11	9,412.11	9,412.11	9,412.11	9,412.11	9,412.11	9,412.11	9,412.11	9,412.11	9,412.11	9,412.11
Payroll	166,635.39	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28	13,886.28
Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-
Financing Activities													
Loan Payments	10,922.88	910.24	910.24	910.24	910.24	910.24	910.24	910.24	910.24	910.24	910.24	910.24	910.24
Owners Distribution	-	-	-	-	-	-	-	-	-	-	-	-	-
Line of Credit Interest	8,928.70	838.55	838.55	838.55	894.42	894.42	894.42	894.42	894.42	894.42	894.42	894.42	894.42
Line of Credit Repaym	-	-	-	-	-	-	-	-	-	-	-	-	-
Dividends Paid	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Cash Outflows	413,491.87	26,775.52	26,775.52	28,295.52	33,351.39	29,871.39	137,371.39	32,911.39	32,911.39	37,911.39	32,911.39	32,911.39	140,411.39
Net Cash Flows	-27,491.87	-21,275.52	-20,275.52	-15,295.52	56,648.61	7,371.39	95,628.61	6,588.61	11,588.61	86,588.61	21,588.61	26,588.61	131,588.61
Operating Cash Balance		27,191.42	6,915.89	8,379.63	56,648.61	49,277.22	144,905.84	151,494.45	163,083.06	249,671.67	271,260.28	297,848.90	429,437.51
Line of Credit Drawn	67,007.94	-	-	8,379.63	-	-	-	-	-	-	-	-	-
Ending Cash Balance		27,191.42	6,915.89	-	56,648.61	49,277.22	144,905.84	151,494.45	163,083.06	249,671.67	271,260.28	297,848.90	429,437.51
Line of Credit Balance		125,783.17	125,783.17	134,162.80	134,162.80	134,162.80	134,162.80	134,162.80	134,162.80	134,162.80	134,162.80	134,162.80	134,162.80

Year 3: Cashflow

	Year 3 Totals
Beginning Balance	
Cash Inflows	
Cash Sales	965,000
Accounts Receivable	-
Total Cash Inflows	965,000
Cash Outflows	
Investing Activities	
New Fixed Asset Pur	2,500.00
Additional Inventory	-
Cost of Goods Sold	288,840.00
Operating Activities	
Operating Expenses	112,945.37
Payroll	166,635.39
Taxes	-
Financing Activities	
Loan Payments	10,922.88
Owners Distribution	-
Line of Credit Interest	10,565.43
Line of Credit Repaym	-
Dividends Paid	-
Total Cash Outflows	592,409.06
Net Cash Flows	372,590.94
Operating Cash Balance	
Line of Credit Drawdc	8,379.63
Ending Cash Balance	
Line of Credit Balance	

V Breakeven Analysis

Gross Margin % of Sales	
Gross Margin	135,232
Total Sales	193,000
Gross Margin/Total Sales	70.1%
Total Fixed Expenses	
Payroll	166,635.39
Operating Expenses	114,286.05
Operating + Payroll	280,921
Breakeven Sales in Dollars (Annual)	
Gross Margin % of Sales	70.1%
Total Fixed Expenses	280,921
Yearly Breakeven Amount	400,925
Monthly Breakeven Amount	33,410

VI Financial Ratios

Ratios	Year One	Year Two	Year Three
Liquidity			
Current Ratio	1.6	0.8	2.5
Quick Ratio	0.1	0.3	2.5
Safety			
Debt to Equity Ratio	1.5	-5.8	0.6
Debt-Service Coverage Ratio - DSCR	-2.1	-0.6	1.8
Profitability			
Sales Growth	0.0%	100.0%	150.0%
COGS to Sales	29.9%	29.9%	29.9%
Gross Profit Margin	70.1%	70.1%	70.1%
SG&A to Sales	141.3%	71.5%	29.0%
Net Profit Margin	-117.2%	-26.7%	30.5%
Return on Equity (ROE)	-306.4%	351.8%	111.1%
Return on Assets	-123.5%	-73.5%	67.5%
Owner's Compensation to Sales	69.9%	35.0%	14.0%
Efficiency			
Days in Receivables	0.0	0.0	0.0
Accounts Receivable Turnover	0.0	0.0	0.0
Days in Inventory	13.1	6.6	2.7
Inventory Turnover	27.5	55.0	137.5
Sales to Total Assets	1.1	2.8	2.2

VII Cost of Goods Sold

Product Line: Mentegy App	
Hosting cost (Website, Cloud)	92
Labor used to produce product	52,688
Costs associated with third party subscription	2,594
Payment processing	2,410
Total Product Expenses	€ 57,784
Number Units Sold in timeframe used	90
Cost of Goods Sold Per Unit	€ 642

8. Sales Pipeline (All figures in Euro)

Year 1: Sales Forecast

Product Lines	Year 1 Totals	July	August	September	October	November	December	January	February	March	April	May	June
sign-up fees													
84 Sold	84.00	4.00	4.00	8.00	8.00	12.00	12.00	20.00	20.00	20.00	20.00	20.00	20.00
Total Sales	8,400.00	400.00	400.00	800.00	800.00	1,200.00	1,200.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
Total COGS	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Margin	8,400.00	400.00	400.00	800.00	800.00	1,200.00	1,200.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
Menteggy app													
84 Sold	84.00	4.00	4.00	8.00	8.00	12.00	12.00	20.00	20.00	20.00	20.00	20.00	20.00
Total Sales	37,800.00	1,800.00	1,800.00	3,600.00	3,600.00	5,400.00	5,400.00	9,000.00	9,000.00	9,000.00	9,000.00	9,000.00	9,000.00
Total COGS	12,768.00	608.00	608.00	1,216.00	1,216.00	1,824.00	1,824.00	3,040.00	3,040.00	3,040.00	3,040.00	3,040.00	3,040.00
Margin	25,032.00	1,192.00	1,192.00	2,384.00	2,384.00	3,576.00	3,576.00	5,960.00	5,960.00	5,960.00	5,960.00	5,960.00	5,960.00
monthly subscription													
338 Sold	338.00	-	4.00	8.00	16.00	24.00	36.00	48.00	68.00	88.00	108.00	128.00	148.00
Total Sales	33,800.00	-	400.00	800.00	1,600.00	2,400.00	3,600.00	4,800.00	6,800.00	8,800.00	10,800.00	12,800.00	14,800.00
Total COGS	-	-	-	-	-	-	-	-	-	-	-	-	-
Margin	33,800.00	-	400.00	800.00	1,600.00	2,400.00	3,600.00	4,800.00	6,800.00	8,800.00	10,800.00	12,800.00	14,800.00
Training													
4 Sold	4.00	-	-	-	4.00	-	-	-	-	4.00	-	-	-
Total Sales	30,000.00	-	-	-	30,000.00	-	-	-	-	30,000.00	-	-	-
Total COGS	2,000.00	-	-	-	2,000.00	-	-	-	-	2,000.00	-	-	-
Margin	28,000.00	-	-	-	28,000.00	-	-	-	-	28,000.00	-	-	-
Consulting													
2 Sold	2.00	-	-	-	-	-	2.00	-	-	-	-	-	2.00
Total Sales	83,000.00	-	-	-	-	-	83,000.00	-	-	-	-	-	83,000.00
Total COGS	43,000.00	-	-	-	-	-	43,000.00	-	-	-	-	-	43,000.00
Margin	40,000.00	-	-	-	-	-	40,000.00	-	-	-	-	-	40,000.00
Product 6													
Sold	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Sales	-	-	-	-	-	-	-	-	-	-	-	-	-
Total COGS	-	-	-	-	-	-	-	-	-	-	-	-	-
Margin	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Units Sold	512.00	8.00	12.00	24.00	36.00	48.00	62.00	88.00	108.00	132.00	148.00	168.00	190.00
Total Sales	193,000.00	2,200.00	2,800.00	5,200.00	36,000.00	9,000.00	93,200.00	15,800.00	17,800.00	49,800.00	21,800.00	23,800.00	108,800.00
Total Cost of Goods	57,768.00	608.00	608.00	1,216.00	3,216.00	1,824.00	44,824.00	3,040.00	3,040.00	5,040.00	3,040.00	3,040.00	46,040.00
Total Margin	135,232.00	1,592.00	1,992.00	3,984.00	32,784.00	7,176.00	48,376.00	12,760.00	14,760.00	44,760.00	18,760.00	20,760.00	62,760.00

Year 2: Sales Forecast

Product Lines	Year 2 Totals	Category Bre	Category July	August	September	October	November	December	January	February	March	April	May	June
sign-up fees														
84 Sold	168.00		0.16	10.00	10.00	20.00	20.00	30.00	30.00	50.00	50.00	50.00	50.00	50.00
Total Sales	16,800.00	1.00	0.04	1,000.00	1,000.00	2,000.00	2,000.00	3,000.00	3,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Total COGS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Margin	16,800.00	1.00	0.06	1,000.00	1,000.00	2,000.00	2,000.00	3,000.00	3,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Mentegg app														
84 Sold	168.00		0.16	10.00	10.00	20.00	20.00	30.00	30.00	50.00	50.00	50.00	50.00	50.00
Total Sales	75,600.00	1.00	0.20	4,500.00	4,500.00	9,000.00	9,000.00	13,500.00	13,500.00	22,500.00	22,500.00	22,500.00	22,500.00	22,500.00
Total COGS	25,536.00	0.34	0.22	1,520.00	1,520.00	3,040.00	3,040.00	4,560.00	4,560.00	7,600.00	7,600.00	7,600.00	7,600.00	7,600.00
Margin	50,064.00	0.66	0.19	2,980.00	2,980.00	5,960.00	5,960.00	8,940.00	8,940.00	14,900.00	14,900.00	14,900.00	14,900.00	14,900.00
monthly subscription														
338 Sold	676.00		0.66	-	10.00	20.00	40.00	60.00	90.00	120.00	170.00	220.00	270.00	320.00
Total Sales	67,600.00	1.00	0.18	-	1,000.00	2,000.00	4,000.00	6,000.00	9,000.00	12,000.00	17,000.00	22,000.00	27,000.00	32,000.00
Total COGS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Margin	67,600.00	1.00	0.25	-	1,000.00	2,000.00	4,000.00	6,000.00	9,000.00	12,000.00	17,000.00	22,000.00	27,000.00	32,000.00
Training														
4 Sold	8.00		0.01	-	-	-	10.00	-	-	-	-	10.00	-	-
Total Sales	60,000.00	1.00	0.16	-	-	-	75,000.00	-	-	-	-	75,000.00	-	-
Total COGS	4,000.00	0.07	0.03	-	-	-	5,000.00	-	-	-	-	5,000.00	-	-
Margin	56,000.00	0.93	0.21	-	-	-	70,000.00	-	-	-	-	70,000.00	-	-
Consulting														
2 Sold	4.00		0.00	-	-	-	-	-	5.00	-	-	-	-	5.00
Total Sales	166,000.00	1.00	0.43	-	-	-	-	-	207,500.00	-	-	-	-	207,500.00
Total COGS	86,000.00	0.52	0.74	-	-	-	-	-	107,500.00	-	-	-	-	107,500.00
Margin	80,000.00	0.48	0.30	-	-	-	-	-	100,000.00	-	-	-	-	100,000.00
Product 6														
Sold	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Sales	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total COGS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Margin	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Units Sold	1024.00			20.00	30.00	60.00	90.00	120.00	155.00	220.00	270.00	330.00	370.00	420.00
Total Sales	386,000.00			5,500.00	6,500.00	13,000.00	30,000.00	22,500.00	233,000.00	139,500.00	44,500.00	124,500.00	54,500.00	59,500.00
Total Cost of Goods	115,536.00			1,520.00	1,520.00	3,040.00	8,040.00	4,560.00	112,060.00	7,600.00	7,600.00	12,600.00	7,600.00	7,600.00
Total Margin	270,464.00			3,980.00	4,980.00	9,960.00	81,960.00	17,940.00	120,940.00	31,900.00	36,900.00	111,900.00	46,900.00	51,900.00

Year 3: Sales Forecast

Product Lines	Year 3 Totals	Category Bre	Category / Total
sign-up fees			
84 Sold	420.00		0.16
Total Sales	42,000.00	1.00	0.04
Total COGS	-	-	-
Total Margin	42,000.00	1.00	0.06
Mentegy app			
84 Sold	420.00		0.16
Total Sales	189,000.00	1.00	0.20
Total COGS	63,840.00	0.34	0.22
Margin	125,160.00	0.66	0.19
monthly subscription			
338 Sold	1,690.00		0.66
Total Sales	169,000.00	1.00	0.18
Total COGS	-	-	-
Margin	169,000.00	1.00	0.25
Training			
4 Sold	20.00		0.01
Total Sales	150,000.00	1.00	0.16
Total COGS	10,000.00	0.07	0.03
Margin	140,000.00	0.93	0.21
Consulting			
2 Sold	10.00		0.00
Total Sales	415,000.00	1.00	0.43
Total COGS	215,000.00	0.52	0.74
Margin	200,000.00	0.48	0.30
Product 6			
Sold	-		-
Total Sales	-	-	-
Total COGS	-	-	-
Margin	-	-	-
Total Units Sold	2,560.00		
Total Sales	965,000.00		
Total Cost of Good	288,840.00		
Total Margin	676,160.00		

Conclusion:

The initial challenges faced by the Mentegy team included identifying the problem area, defining the scope of the service and technical feasibilities during the journey. The main focus was to identify the underlying root cause of the hate crimes happening in the society followed by its symptoms. After research, the team found out that there is a fine line between hate speech and freedom of expression and narrowed down on the definition of hate speech as the one that causes incitement towards a group of particular race, religion or ethnicity. The team further went on to decide the type of hate speech Mentegy is going to target initially which is Xenophobia. This helped build the corpus of lexicons used particularly for xenophobia around the world to be acting as a filter for obtaining the tweets. The scope was further tapered down by analysing the target market by calculating the Serviceable Available Market and Serviceable Obtainable Market which proved to be effective both in terms of business and having a society specific accepted definition of hate speech by the law in that limited market which would ensure Mentegy's efficacy and success.

The problems in society will always be Mentegy's prime focus followed by the technologies used to address them. The team will work on improving the accuracy and speed of detection of online hate speech and move on to increase Mentegy's reach to more languages, societies and cultures and revolutionize the hate crime reporting infrastructure.

Source Code GitHub Link

<https://github.com/jay6445/Mentegy-Social-Media-Hate-Speech-Analysis-and-Monitoring-Tool.git>

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