PROTOTYPE SELECTION

Identifying and maintaining records of affected members or people at risk :

The initial step is to maintain a log of the patient , including the latest updated health parameters, mood logs, and multiple other minor details.
Thereafter, the app redirects the user based on the category the app caters to.

Affected PD patients:

• Recommender Systems are used to give real-time notifications and tips on lifestyle of patients.
• Regulated music therapy is implemented for emotional management.
• Supervised Machine Learning is employed for automatic sleep scheduling based on previous logs of sleep and daily activity patterns.
• Mood Tracking is used with short term entries, mapping out overall patterns of behavior for diagnostic purposes.

Symptoms initially being observed in patients:

- Gait Analysis is performed using Machine Learning
- Necessary medical information is automatically suggested to consumer
- Online consultation services are provided with expert doctors
- Checkup scheduling is done for those opting for frequent examination

Patients believed to be at risk of having PD:

- Analysis and Prediction using reported symptoms
- Preventive measures (proven and unproven)
- Genetic study of overall mapping of PD in the family

Consumers who do not fall in the aforementioned categories:

- Awareness of Parkinson's Disease is raised with its adverse effects.
- Consumers are encouraged to share and raise awareness to elderly people they may know.

Prototype Description: Parkinson's Disease Prediction and Gait Analysis

The prototype aims to develop a system that combines machine learning algorithms with gait analysis techniques to predict the risk of Parkinson's disease and provide insights into gait abnormalities associated with the condition. The prototype consists of the following components:

1. Data Acquisition:

- Wearable Sensors: Utilize wearable sensors, such as accelerometers and gyroscopes, to capture motion data during walking or gait activities.
- Gait Analysis System: Incorporate a gait analysis system that can measure various gait parameters, including stride length, cadence, step time.

2. Machine Learning Models:

- Model Development: Trained a machine learning model XGBOOST. The models will learn to identify Parkinson's disease.A gait analysis is also done,it can be used in sensors.

3. User Interface and Visualization:

- Dashboard Interface: Develop a user-friendly dashboard or mobile application that allows individuals to input their gait data and receive predictions and visualizations of their gait characteristics.
- Gait Analysis Reports: Generate comprehensive reports highlighting gait abnormalities, comparisons with healthy individuals, and the predicted risk of Parkinson's disease.

The three main features that exist in this prototype are:

1. Feasibility:

Developing a prototype for Parkinson's disease prediction and gait analysis is technically feasible. There have been advancements in the field of medical research and data analysis, including machine learning and AI algorithms, that can be leveraged for this purpose. However, it is important to ensure access to relevant data sources, such as patient records and gait analysis data, to train and validate the predictive models accurately. This project can be developed and deployed within a year as SaaS (Software as a Service) to use.

2. Viability:

Parkinson's disease is a chronic neurodegenerative disorder that affects a significant number of individuals worldwide. The ability to predict and analyze gait patterns can contribute to early detection, monitoring, and personalized treatment plans for Parkinson's patients. With an aging population and increasing awareness about Parkinson's disease, there is a potential market for a prototype that focuses on prediction and gait analysis. Collaborating with medical professionals, research institutions, and Parkinson's disease foundations can help validate the viability of the prototype and ensure its relevance in the healthcare industry.

3. Monetization:

There are several monetization models that can be considered for a Parkinson's disease prediction and gait analysis prototype. These include:

a) Licensing Model: The prototype can be licensed to medical institutions, hospitals, or clinics, which can then offer the prediction and gait analysis services to their patients. The licensing fee can be based on factors such as the number of patients or the level of usage.

b) Subscription Model: The prototype can be offered as a subscription-based service, where healthcare providers or individual users pay a recurring fee to access the prediction and gait analysis capabilities. The subscription fee can be determined based on the features, usage limits, and support provided.

c) Partnerships and Collaborations: The prototype can be integrated into existing healthcare systems or platforms through partnerships with medical technology companies or healthcare service providers. This can involve revenue-sharing agreements or licensing arrangements that allow the prototype to reach a larger user base.

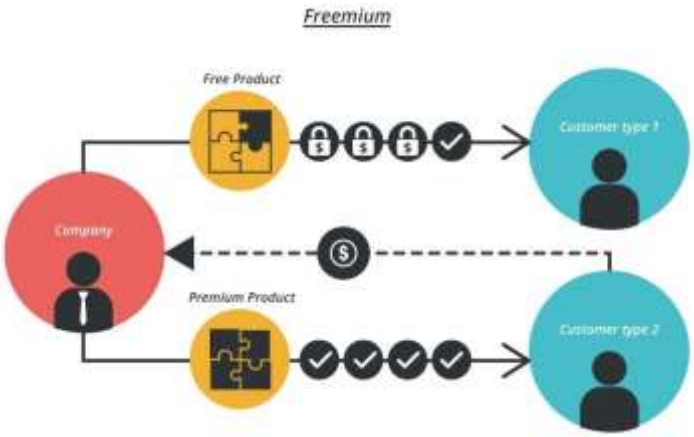
By considering these factors, conducting thorough market research, and seeking expert input from medical professionals and stakeholders, you can increase the feasibility, viability, and monetization potential of a prototype related to Parkinson's disease prediction and gait analysis.

The prototype aims to provide individuals with early detection and risk prediction for Parkinson's disease based on gait analysis. It can serve as a screening tool for individuals at risk or support healthcare professionals in diagnosing and monitoring the condition. The gait analysis component provides valuable insights into specific gait characteristics associated with Parkinson's disease, aiding in treatment planning and monitoring disease progression.

BUSINESS MODELLING

FREEMIUM MODEL:

Implementing a freemium model for Parkinson's disease can be an effective way to provide value to individuals while generating revenue for our business.



Here's how you can structure a freemium model for Parkinson's disease:

1. Basic Free Offering:

- Offer a free version of our product or service that provides essential features or a limited set of functionalities.
- The basic free offering will be valuable on its own and address some of the key needs of individuals with Parkinson's disease. This could include educational content, basic symptom tracking, or access to a community forum.

2. Premium Upgrade:

- Provide a premium version of your product or service with enhanced features, additional functionalities, or more extensive content.
- The premium upgrade will offer significant value and cater to the specific needs and preferences of individuals with Parkinson's disease. This could include advanced symptom tracking and analysis, personalized treatment plans, expert consultations, or access to exclusive educational resources.

3. Value Communication:

- We clearly communicate the value proposition of our premium offering to differentiate it from the free version.
- Highlight the additional benefits, convenience, or personalized support that individuals can gain by upgrading to the premium version.
- Use targeted marketing messages to demonstrate how the premium offering can enhance their quality of life and improve disease management.

4. Pricing and Subscription Model:

- Determine the pricing structure for the premium upgrade. This could include monthly or annual subscription fees or one-time payments for access to the premium features.
- We would like to set the price at a level that reflects the value provided and aligns with the market and target customer segment's willingness to pay.
- We consider offering different subscription tiers or plans to cater to varying needs and budgets.

5. Customer Retention and Loyalty:

- Offer exclusive benefits or rewards to loyal customers, such as early access to new features, priority customer support, or discounts on related products or services.
- Encourage user feedback and actively respond to customer needs to foster a sense of community and build long-term relationships.

6. Marketing and Conversion Strategies:

- Develop marketing strategies to attract new users to the free offering and convert them into premium subscribers.
- We would like to utilize digital marketing channels, content marketing, social media, and partnerships with relevant organizations to raise awareness and drive user acquisition.
- Leverage positive user experiences, testimonials, and success stories to build credibility and encourage conversions.

7. Continuous Value Enhancement:

- Regularly evaluate user feedback, market trends, and advancements in Parkinson's disease management to enhance the value of your premium offering.
- Invest in research and development, collaborate with healthcare professionals, and integrate emerging technologies to stay at the forefront of Parkinson's disease care.
- Continuously communicate with our user base to ensure our offerings meet their evolving needs and expectations.

We would like to strike a balance between the free and premium offerings to provide enough value in the free version while incentivizing users to upgrade. By implementing a freemium model effectively, you can establish a sustainable business while making a positive impact on the lives of individuals with Parkinson's disease.