A heart with a person holding hands

Description automatically generated

**BUSINESS PLAN**

From Hearty

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Raspored zadataka:

Plava = Lejla

Zuta = Emir

Zelena = Muhamed

# Description of the business plan

Cardiovascular diseases (CVD) represent a global health challenge, creating a significant burden on public health and the economy. According to the World Health Organization (WHO), CVDs are the leading cause of death worldwide, claiming millions of lives every year. However, many of these deaths can be prevented through early detection and timely treatment. For this reason, FromHearty emerges – an innovative web platform that combines advanced artificial intelligence technologies aimed at early detection of CVDs and optimizing the treatment process.

FromHearty's mission is clear and ambitious: to improve citizens' health through innovative technologies for early detection of CVDs. The company's vision is to transform the way healthcare is delivered, ensuring accessible, personalized, and proactive healthcare for every individual. Through partnerships with patients, healthcare institutions, and communities, we aim to create a world where prevention is a priority, and every step towards health is a step towards a better future. Our mission drives changes that will shape the healthcare sector and enhance the well-being of all people, regardless of their position or income. Through collaboration, innovation, and dedication, FromHearty strives to build a healthier, happier, and safer community for all. We aspire to establish a startup company that stands behind this product, aiming to revolutionize the field of healthcare technology.

The FromHearty application is designed for healthcare institutions, pharmaceutical companies, public health agencies, insurance companies, educational institutions, associations of patients with cardiovascular diseases, as well as individual users. The platform offers easy access to tools for early detection of CVDs, enabling efficient prevention and rapid intervention.

We are creating a clear and compelling marketing message that highlights the advantages of the FromHearty platform in early detection and prevention of CVDs. The marketing plan will be implemented through a series of strategies that will ensure broad promotion and acceptance of the FromHearty platform among medical institutions and professionals. We will visit various healthcare institutions to acquaint them with the benefits and functionalities of the FromHearty application, positioning it as a leading solution in the prevention of cardiovascular diseases. Additionally, we will establish collaborations with medical centers both domestically and internationally.

As part of the implementation, we plan to organize online campaigns targeting platforms dedicated to cardiovascular health, create a website, brochures, and leaflets, and produce informative articles and videos. Moreover, we will strive to appear on television shows focusing on health topics, as well as organize webinars and seminars for medical professionals. The importance of preventive diagnosis of cardiovascular diseases will be emphasized in all marketing campaigns, and we will collaborate with external partners, such as physicians, to expand the reach of the application. Additionally, we will introduce reward programs for doctors who use the application in their work.

The idea of the FromHearty platform is highly interesting from a business perspective. The implementation of this platform enables the reduction of overcrowding in healthcare institutions, reducing the costs of long-term treatment of CVDs, and improving access to healthcare services. Furthermore, improving health through early detection of CVDs can have a positive impact on workforce productivity and economic growth.

According to research by the American Heart Association, more than $300 billion is spent annually in the United States on the treatment of cardiovascular diseases, including treatment costs, hospitalizations, and loss of productivity due to illness. Studies have shown that early detection and intervention in cases of heart disease can significantly reduce the costs of long-term treatment. We estimate that savings in the treatment costs of cardiovascular diseases could be significant, given data showing that every dollar invested in prevention and early detection can yield savings of $4 to $7 in treatment costs.

According to research published in the Journal of the American Heart Association, the implementation of AI technologies for early detection of heart disease can increase the disease detection rate by 45%, significantly improving health outcomes and reducing treatment costs. The pharmaceutical industry is increasingly recognizing the potential of AI technologies in improving healthcare. According to research by the IQVIA Institute for Human Data Science, spending on AI technologies in the healthcare sector is projected to reach $6.6 billion by 2025.

Market analysis shows a high demand for innovative technological solutions in the healthcare sector, particularly in the field of early detection and prevention of cardiovascular diseases. Investors are increasingly interested in investing in projects that offer practical and efficient solutions to these health challenges.

Although there are competitive systems such as the Mayo Clinic's Cardiovascular Risk Calculator and the American Heart Association's Heart Attack Risk Calculator, FromHearty stands out with its combination of advanced AI technologies focused on early detection of CVDs. The advantage of the FromHearty platform over the competition lies in a range of features that make it unique and efficient.

FromHearty offers a personalized approach to healthcare counseling tailored to the individual needs and characteristics of each user. Our platform uses advanced AI algorithms to analyze large amounts of data and provide personalized recommendations for the prevention and treatment of CVDs, taking into account specific risk factors and the health history of each patient. Our platform uses complex algorithms and analytical tools to identify potential signs and symptoms of CVDs at an early stage, enabling rapid intervention and prevention of serious health complications.

FromHearty stands out with continuous support for patients throughout the treatment process. Our platform enables users to access expert advice and resources, as well as the ability to track their health progress and achieve goals. This continuous support helps motivate users to maintain healthy habits and regularly monitor their health status.

Existing systems can increase awareness of the need for early detection and prevention of CVDs, which can help increase the acceptance of the FromHearty platform by users and healthcare institutions. The presence of existing competitive systems can also make market penetration challenging for the FromHearty platform. Users who already use other similar platforms may not be willing to switch to a new platform without clear additional benefits. The presence of existing competitive systems can have a complex impact on the FromHearty platform, but through effective management of challenges and leveraging opportunities, FromHearty can remain competitive and achieve success in the market.

To launch the FromHearty platform, a certain capital investment is required for initial costs, including company registration, employee salaries, equipment and materials procurement, and other administrative expenses. The total initial costs amount to $116,480. These initial costs are necessary investments in the basic resources required for the development and launch of the FromHearty platform. Company registration provides the legal basis for operations, while employee salaries ensure the expertise and workforce needed for the development and maintenance of the platform. Procurement of office space, computers, and equipment enables the efficient operation of the team, while other material costs ensure optimal working conditions.

It is important to emphasize that investing in the FromHearty platform represents a sustainable investment in future success and growth. Through innovative technologies, personalized healthcare approaches, and continuous support for patients, FromHearty has the potential to become a leader in the field of prevention and early detection of cardiovascular diseases. The FromHearty project is not just an investment in technology, but also an investment in people's health and communities. By improving access to healthcare and reducing treatment costs, FromHearty contributes to better health and a better life for millions of people worldwide.

# Description of the business idea

Our application, named FromHearty, represents a revolutionary approach to diagnosing heart diseases, standing out for its user-friendly interface, deep data analysis, and the ability to provide rapid and precise diagnoses through artificial intelligence. In addition to potentially high financial returns, investing in this idea offers investors the opportunity to be part of the progress in healthcare technology, improving the lives of millions of people worldwide. Our company, with its expert team and innovative approach, is ideally positioned to achieve this vision, providing top-notch healthcare and creating a positive social impact, making it a reliable partner in achieving the common goal: fighting cardiovascular diseases and promoting health worldwide.

## Description of the idea

The implementation strategy of the FromHearty application is divided into six phases, each reflecting key steps in the development and enhancement of our platform for diagnosing heart diseases.

In the first phase, we focus on the core functionalities of the application. We enable family doctors easy access to the platform through the login system. Additionally, users are allowed to input key patient parameters relevant to the diagnosis of heart diseases, laying the foundation for future analyses and predictions. This phase also includes market analysis to better understand institutional needs and user preferences, as well as to identify competitive advantages.

In the second phase, the emphasis is on improving the user interface to make it more intuitive and accessible. We also conduct prototype testing with pre-alpha users to gather valuable feedback for further application development.

Subsequently, in the third phase, we expand the application's functionalities by adding new tools and capabilities. Users are provided access to their own health data and can make inquiries to their physician. We implement the option for scheduling appointments with specialists to ensure patients receive appropriate care more promptly.

In the fourth phase, the focus is on promoting the application and enhancing the artificial intelligence underlying the diagnostic processes. Alongside marketing activities, we develop reporting tools and data visualization to provide users with comprehensive insights into their health.

In the fifth phase, we concentrate on optimizing the application and testing the infrastructure to ensure the platform's stability and security. We plan software architecture and secure database backups to protect user data.

Finally, in the sixth phase, we focus on integrating communication between family physicians and specialists through internal messaging to facilitate collaboration. Additionally, we implement the option for integration with medical devices for automatic data collection and enhance artificial intelligence algorithms for more precise diagnoses. This phase represents a continuous process of improvement and innovation to keep FromHearty at the forefront of heart disease diagnostics.

## Description of shareholders

Stakeholders crucial to the FromHearty platform encompass a diverse group with varying interests and roles. Their support and engagement are essential for the success and expansion of the platform.

Healthcare institutions, including physicians, hold a prominent position among stakeholders, with an estimated share of 35%. Their expertise and support are critical for the adoption of the platform in clinical practice and ensuring its integrity and effectiveness. Physicians, as primary users of the software, are particularly interested in the reliability and accuracy of the results provided by the FromHearty platform.

Patients represent a core target group for the FromHearty platform. Their interest in preventing cardiovascular diseases directly influences the adoption and usage of the software. Patients include the elderly population, often at high risk of developing cardiovascular diseases, individuals with overweight conditions, posing an increased risk of heart conditions. Additionally, individuals leading stressful lifestyles and those with genetic predispositions are part of this target group, as well as people living in rural areas. The FromHearty platform provides an opportunity for quality healthcare assessments via the internet. Moreover, the application is useful for those proactively monitoring their health, including athletes and those seeking to apply preventive measures for heart and vascular health. Patients are estimated to constitute about 30% of all stakeholders. Their active participation in using the platform is crucial for generating data and feedback that will further enhance the functionality and user experience of the application.

Public health institutions and insurance companies represent another significant segment of stakeholders, with an estimated share of 10%. Their interest lies in the potential to reduce treatment costs for cardiovascular diseases through more effective prevention and early detection of illnesses. By using the FromHearty platform, these entities have the opportunity to optimize resource allocation and improve the health outcomes of their policyholders or citizens.

Pharmaceutical companies, with an 8% share, also have an interest in using the FromHearty platform as an additional tool in promoting, selling, and supporting their products for the prevention and treatment of cardiovascular diseases.

In addition to the mentioned stakeholders, an important stakeholder is the investor, with an estimated share of 5%, who has an interest in investing financial resources in the development of software to aid in the prevention of cardiovascular diseases. The investor will monitor the market acceptance of the innovative solution and assess the financial viability of the investment. If the labor market accepts this innovation, the investment will be financially justified, which is a key interest of the investor.

Educational institutions, such as universities, medical faculties, and educational organizations, are also an important segment of stakeholders, with an estimated share of 5%. Their interest lies in including the FromHearty platform in educational programs for educational purposes to provide students with knowledge and tools for effective prevention and diagnosis of cardiovascular diseases.

Associations of patients with cardiovascular diseases account for approximately 5% of all stakeholders. Their role is to advocate for the interests of patients and support the promotion and implementation of the FromHearty platform as a resource to improve the quality of life for individuals living with heart conditions.

In addition to the mentioned stakeholders, cloud companies also have a significant interest in this software, with a 2% share, due to the need for system hosting. These companies can provide hosting services for the application, ensuring scalability, security, and reliability of the infrastructure. Their interest stems from the fact that the use of this software will result in increased demand for their cloud services. Therefore, cloud companies have a clear interest in collaborating with the creators of this software to provide optimal hosting environment for the application.

Each of the aforementioned stakeholders has a unique role and contribution to the FromHearty platform, making their support essential for achieving the platform's goals in preventing and early detecting cardiovascular diseases.

Below is a tabular representation of the impact of stakeholders on the project.

“**DURING PROJECT DEVELOPMENT”**   
(The impact of stakeholders on the project)

|  |  |
| --- | --- |
| negative | positive |
| Consultant (we did not engage a medical  consultant during the software development). | **Healthcare institutions** (their interest is in better patient care management). |
| Parameters (accurate input parameters for diagnosing cardiovascular diseases are not defined). | **Physicians** (the main users of the software, are interested in the application being accurate and reliable in terms of results). |
| Financial risk (interruption in funding or unplanned costs during the development, implementation, or maintenance of the software can lead to budget overruns). | **Software owner / investor** (the interest is to develop software that will assist in the preventive diagnosis of cardiovascular diseases. If the market accepts the solution, the investment would be financially justified). |
|  | **Public health institutes and insurance companies** (may be interested in the software as it can impact the reduction of treatment costs for their policyholders). |
|  | **Cloud / hosting companies** (companies that provide cloud services may be interested in the software as potential users of their services). |
|  | **Pharmaceutical companies** (these companies may be interested in the software as it could impact the usage of their products). |

**Project risks Potential partners**

“**AFTER PROJECT DEVELOPMENT”**   
(The impact of stakeholders on the project)

|  |  |
| --- | --- |
| negative | positive |
| Technical issues (malfunctions or unavailability of the application can lead to interruptions in the provision of healthcare services). | **Patients** (end users of the software, interested in preventive diagnosis of cardiovascular diseases). |
| Integration with other systems (the software is not compatible or lacks the capability to integrate with other medical applications and devices). | **Public health institutes and insurance companies** (may be interested in the software because it can impact the reduction of treatment costs for their policyholders). |
| User acceptability (the software is not user-friendly and as such, may encounter resistance during implementation or discontinuation in usage). | **Educational institutions** (universities, medical schools, or educational organizations may be interested in the application with the aim of including it in their educational program). |
| Data security (if the software does not provide high data protection, there is a risk of unauthorized access or disclosure of patients' health information). | **Associations of patients with cardiovascular diseases** (organizations that advocate for the interests of patients with cardiovascular diseases). |
| Incorrect or unreliable results (if the software generates inaccurate or unreliable results, which can lead to incorrect diagnoses or treatment of patients). |  |
| Healthcare standards (the software has not taken into account all medical standards and regulations). |  |

**Project design risks / negative aspects Target group and ultimate project users**

## The location and facilities offered by it

Our business plan is solely focused on this product, and behind it, we aim to establish a startup that seeks potential partners and investors. As an online platform, our service will be exclusively utilized via the internet. Thanks to the online business model, we provide users access to our services from anywhere in the world. This model enables us to operate efficiently without geographical constraints and opens the door to collaboration with partners and investors worldwide.

As an initial startup with this product, our focus on online operations allows us to manage logistics efficiently with lower costs. Since all activities take place online, we avoid the need for physical space, warehouses, and traditional distribution methods. This reduction in logistics costs is crucial for the initial stages of startup development as it enables us to allocate resources to product development and market expansion without the need for significant investments in logistic infrastructure. Reducing logistics costs also positively impacts the profitability of the startup, which can be appealing to potential investors who may be interested in investing in our company. In terms of the most efficient price-quality ratio, our platform offers high-quality service at an affordable price. This is possible due to our efficient online infrastructure that reduces operational costs.

As a potential startup, it is possible that we will offer a portion of ownership to investors as compensation for their capital invested in our company. This approach allows us to attract investors and secure the necessary funds for further product development, while sharing risks and benefits with them simultaneously.

# Description of services

## Descriptions of services

FromHearty is a revolutionary solution that leverages artificial intelligence for fast and accurate diagnosis of cardiovascular diseases. The primary focus of the application is on achieving precision, accessibility, and efficiency. The application represents a comprehensive solution that meets the needs of patients, physicians, and healthcare institutions.

Our software utilizes the latest AI technologies and data analytics to provide precise and reliable diagnostic results. Through a comprehensive review of patients' medical data, the software identifies potential risk factors and enables early detection of cardiovascular problems.

We enable physicians to quickly and efficiently identify patients at high risk of cardiovascular diseases. By generating individual risk analyses, the software assists in prioritizing patients and planning tailored treatment for each individual.

Through our web platform, patients can independently assess their risk of cardiovascular diseases. The user-friendly interface allows for easy input of relevant data, and the results are quickly displayed with clear explanations and recommendations.

We offer the option for seamless integration with various medical devices for monitoring health parameters. This integration allows for automatic updating of patient data and continuous monitoring of their health status.

Our team of experts provides continuous support to users, including technical support, training, and education. With constant availability and personalized resources, we ensure that healthcare institutions maximize the potential of the software.

Through our cloud platform, we ensure secure storage of patients' medical data. With high-level encryption and access restricted to authorized users only, we guarantee the privacy and integrity of sensitive health information.

It is important to emphasize that we have collaborated in partnership with expert medical staff throughout the development of the application. In this way, we have ensured that "FromHearty" is not only an advanced technological solution but also based on solid medical standards.

Our services not only facilitate diagnosis and management of cardiovascular disease risk but also elevate the standards of healthcare through innovative technologies and patient-centric approach. With our software, we pave the way towards a healthier future.

## Analyze FAB (Features-Advantages-Benefits)

Through a detailed FAB analysis, we aim to provide insight into the most crucial features, advantages, and benefits of the FromHearty application. We have highlighted how the diagnostic and risk management processes will be improved for patients with cardiovascular diseases, thereby contributing to the advancement of healthcare.

**Features**

**Precise AI diagnostics:**

* The software utilizes advanced AI learning algorithms and data analysis to analyze patients' medical data and provide accurate and reliable diagnostic results.
* The algorithms are developed taking into account various risk factors such as age, gender, medical history, lifestyle, and results of previous analyses.

**Patient prioritization:**

* Based on the results and data analysis, the software generates individual patient outcomes displaying their current risk of developing cardiovascular diseases.
* The software's algorithms automatically assess the risk of each patient and generate priority lists of patients forwarded to physicians, enabling them to efficiently allocate resources and plan treatment strategies.

**Self-testing of patients:**

* The software provides patients with the opportunity to independently test their health through simple and intuitive user interfaces.
* Patients can use the web platform for testing and tracking results, and based on the obtained results, schedule expert examinations with their primary care physician.

**Integration with medical devices**

* The software can integrate with specialized medical devices for the diagnosis and monitoring of cardiovascular diseases.
* These devices enable more detailed analyses of heart diseases, providing additional information about patients' health status, which can be used in assessing the risk of cardiovascular diseases and planning treatment.

**Advantages**

**Fast diagnostics:**

* The application enables rapid and efficient diagnosis of the risk of cardiovascular diseases, reducing the time required for traditional diagnosis.
* This contributes to reducing wait times for appointments and improving overall health outcomes.

**Increasing efficiency:**

* Integration with existing medical devices reduces the need for manual data entry and improves the efficiency of physicians' work.
* It enables physicians to access important information more quickly and make treatment decisions faster.

**Resource optimization:**

* The software helps in more efficient use of healthcare system resources, enabling physicians to focus on working with a larger number of patients.
* This will lead to cost reduction and increased efficiency in delivering healthcare services.
* This optimization allows hospitals and clinics to provide efficient and high-quality healthcare, even with limited resources.

**Improved accessibility of healthcare:**

* Patients can use the software for self-testing and monitoring their health without the need for regular visits to the doctor. Interactive interfaces allow patients to easily input their data and obtain test results.
* This capability enables patients to quickly respond to their health needs and engage in active monitoring of their health status.

**Benefits**

**Early disease detection:**

* The software aids in the early detection of cardiovascular disease risks, enabling timely implementation of preventive measures and reducing the number of severe illnesses.
* Early intervention can prevent the development of serious complications and improve patient treatment outcomes.

**Reduction of healthcare costs:**

* Rapid diagnostics and patient prioritization help reduce healthcare costs through more efficient resource utilization and decreased need for expensive interventions.
* This will contribute to alleviating the burden on the healthcare system and improving the accessibility of healthcare services for all patients.

**Improvement of quality of life:**

* Early detection and management of cardiovascular disease risks enable patients to take preventive measures and improve their quality of life.
* Regular health monitoring through the application can help patients make timely decisions about their health and lifestyle.

**Increasing patient satisfaction:**

* Accessibility of the Hearty self-testing application contributes to increased patient satisfaction and trust in the healthcare system.
* Patients feel more engaged in their healthcare, which will increase trust in the quality of healthcare.

## Establishing the production cost. COGS

Since we have different parts of the technology we will create the COGS step by step for each individual part, some of them upgrading the parts before.

The initial main objective is to create a ML model which based on inputs returns a proper output for heart diseases which hospitals can integrate with their existing systems. Since this is a model which needs to be once trained and then hosted and redeployed it is a perfect candidate for serverless computing. Since it is not hosting any user data we are not limited to a hosting provider, therefore it can be host anywhere e.g. Azure.

Furthermore based on research we know that one doctor is usually only having around 5 patients with heart problems per week, we believe this number would increase without marketing but will not exceed above 10 patients which is a 100% increase. Therefore our API for 1 doctor would need to handle around 40 requests per month. If doctors make some errors we can conclude that the maximum number of requests per patient would be around 50.

Based on additional research we have concluded that computing for serverless is quite low, however its hard to estimate exactly the numbers but we conclude that an AI with 10 000 requests would cost us per month only around 20$ which.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | |  | |  | | | | |
| Number of doctors: | | | | 1 | | 5 | | 10 | 25 | 75 | 200 |
| Patients (for heart diseases): | | | | 50 | | 255 | | 500 | 1 250 | 3750 | 10 000 |
| Cost: | | | | $10 | | $50 | | $100 | $250 | $750 | $2000 |
| Discount: | | | | 0% | | 2% | | 4% | 6% | 8% | 10% |
| Price: | | | | $10 | | $49 | | $96 | $235 | $690 | $1800 |
| Cost of serverless: | | | | $0.1 | | $0.51 | | $1 | $2.5 | $7.5 | $20 |
| GM: | | | | $9.9 | | $48.49 | | $95 | $233.5 | $682,5 | $1780 |
| GM %: | | | | 99% | | 99% | | 99% | 99% | 98.9% | 98.8% |

*The above table shows number per month.\**

Beside the AI API we want a full system which we offer companies which are not satisfied with their current to switch to ours. Here the server has to be hosted in the country (Bosnia) in which the hospitals are located. Based on that we see the hosting provider Logosoft as a valuable stack holder.Here we can for the beginning use the approach of giving each facility [each own VM (server) which logosoft offers](https://logosoft.ba/cloud-usluge). This can be futher optimised long term by either having one server which handles multiple smaller clients.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | Essential | Standard | Premium | Enterprise |
| vCPU: | 1 | | 2 | 4 | 8 |
| Hard disk (GB): | 50 | | 100 | 200 | 400 |
| RAM (GB): | 2 | | 4 | 8 | 16 |
| Cost of Server: | $36 | | $53.85 | $101 | $187 |
| Estimate number of users it can handle | < 15 | | 16-75 | 76-200 | 201-1000 |
| Our price | $150 | | $250 | $475 | $950 |
| GM | $114 | | $196 | $374 | $763 |
| GM% | 76% | | 78% | 79% | 80% |

*The above table shows number per month.\**

Since the numbers are quit high we believe to be able to offer the API within the hosting cost so a standard hospital with 15 to 75 employees would pay $250 and the GM would be easily above 75%.

## Futher product strategies

1. **Application for users**

We can futher improve our solution by offering users another model which can do a precheck and infom the user if additional checks by the doctors are necessary. The cost here would only include the Google PlayStore and Apple’s AppStore fees. While its also possible that the application is hosted and available over a website, as a PWA (Progressive web application). The cost however for PlayStore is quite low its a one time payment of $25 while the payment of AppStore is per year $99. The PlayStore as well as the AppStore have a fee of 30% for each transaction (sell) of the application while PlayStore has a policy where you can overcome that transaction fee by using an alternative transaction API-s.

1. **Creation of custom LLM (e.g. integration of ChatGPT)**

Long term we believe the best strategy would be to train a custom LLM which can give insights of the response which the AI produced etc.

1. **Futher functionalities which facilities need**

Long term we can aim to integrate additional functionalities not just related to heart desies and appointments but rather all kinds of functionality which a hospital needs. Such functionalities can also include improvements of the app to add information where are the closes stores which have the needed drug & vitamin, as well as ads for pharmaceutical industries.

1. **Additional AIs for different diseases**

As we have seen the cost for such an AI has quite a good COGS which is above 98%. Therefor we believe long term the best course of action would be to focus on crafting and offering such solutions.

# Market Analysis

## Competitive Analysis

When analyzing the competition for the From Hearty application, it can be said that From Hearty, considering the set of functionalities it offers, is a unique solution. However, there are certain online calculators for predicting the likelihood of cardiovascular disease, which are easily accessible from any location. Online calculators can be considered the only competition because some of them utilize AI for prediction creation, thus having this similarity with the From Hearty application. The From Hearty application is primarily intended for the spaces of Bosnia and Herzegovina; however, similar solutions do not exist in the Bosnia and Herzegovina area. Therefore, only online cardiovascular calculators that are easily accessible to users via the internet can be considered in the competition analysis.

The From Hearty application significantly differs from online calculators by its MVP, as it encompasses a range of functionalities that are not present in online calculators, such as:

* Authentication for creating AI predictions,
* Sending obtained prediction results to a cardiologist and scheduling appointments,
* Editing, accepting, and rejecting scheduled appointments by cardiologists,
* Viewing the history of made predictions for each patient,
* Use of Chat GPT to provide detailed explanations of obtained results based on input parameters,
* Statistical data relevant for each general practitioner and cardiologist individually.

Online solutions themselves do not possess these functionalities; they only have a calculator that, based on input parameters, concludes whether the patient suffers from cardiovascular diseases or not. Some of the mentioned online calculators are also age-limited, so very young or older patients cannot make predictions. The From Hearty application enables prediction creation regardless of the patient's age, making it much more accessible to patients of all ages. The parameters taken into account by the From Hearty application for analysis are as follows:

1. Chest Pain Type
2. Resting Blood Pressure (Resting BP)
3. Cholesterol
4. Fasting Blood Sugar (FBS)
5. Resting Electrocardiographic Results (Resting ECG)
6. Maximum Heart Rate (Max Heart Rate)
7. Exercise-Induced Angina
8. Oldpeak
9. ST Slope

Based on conducted research, a dataset with the mentioned data is a good basis for input data for creating a prediction of cardiovascular disease, as it focuses only on significant parameters in decision-making, while online calculators also focus on parameters that may not be a strict indicator of the disease but are only statistically significant data that does not play a significant role in decision-making.

The MVP of the From Hearty application has a very attractive interface, is intuitive, and easy to use, serving its purpose. The biggest drawback of the implemented MVP is the fact that there is no suggestion for diagnosis and treatment therapy based on input parameters; however, competitive online calculators also mostly do not have this functionality implemented. Such functionality could be an improvement of the current solution in the future.

The cost of implementing competitive solutions has not been analyzed as such data is not easily available online.

Scale used for ratings from 1 to 5:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| unsatisfactory | satisfactory | good | very good | excellent |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Strong points | From Hearty (our application) | Competitors | | | | | |
| St. Jude’s CCSS Cardiovascular Risk Calculator | Mayo Clinic’s cardiovascular risk calculator | American College of Cardiology’s ASCVD Risk Estimator | Australian CVD risk calculator AusCVDRisk | Professional Heart Daily PREVENT TM Calculator | Wolters Kluwer’s Calculator |
| Number of prediction parameters | 9 | 8 | 2 | 12 | 10 | 11 | 9 |
| Appointment scheduling through calendar | ✔ | ✘ | ✘ | ✘ | ✘ | ✘ | ✘ |
| Review of appointment and patient information | ✔ | ✘ | ✘ | ✘ | ✘ | ✘ | ✘ |
| Integrated Chat GPT API for providing detailed explanation of obtained results | ✔ | ✘ | ✘ | ✘ | ✘ | ✘ | ✘ |
| Provision of advice or diagnosis based on obtained parameters | ✘ | ✘ | ✘ | ✔ | ✔ | ✘ | ✘ |
| Review of prediction history for each patient | ✔ | ✘ | ✘ | ✘ | ✘ | ✘ | ✘ |
| Editing appointments for specialist examinations | ✔ | ✘ | ✘ | ✘ | ✘ | ✘ | ✘ |
| Review of educational content and documents | ✔ | ✔ | ✔ | ✘ | ✘ | ✔ | ✘ |
| Viewing profiles of other doctors and cardiologists | ✔ | ✘ | ✘ | ✘ | ✘ | ✘ | ✘ |
| Review of statistical data through dashboards | ✔ | ✘ | ✘ | ✘ | ✘ | ✘ | ✘ |
| Required Authentication for AI use | ✔ | ✘ | ✘ | ✘ | ✘ | ✘ | ✘ |
| Age Limitation | ✘ | ✔ (5 – 39) | ✘ | ✔ (20 – 79) | ✔ (30 – 79) | ✔ (30 – 79) | ✔ (30 – 74) |
| Criteria for Comparison with Ratings on a Scale from 1 to 5 | | | | | | | |
| User Experience (interface, navigation, speed, and intuitiveness) | 5 | 4 | 4 | 5 | 5 | 4 | 4 |
| Design (product aesthetics) | 5 | 3 | 2 | 5 | 5 | 4 | 2 |
| Performs tasks and fulfills the purpose it is intended for | 5 | 4 | 2 | 5 | 5 | 4 | 3 |

## Analysis of the target audience

|  |  |  |
| --- | --- | --- |
| Target companies | | |
| Demographic | **Industries:** | Hospitals, Specialist clinics |
| **Annual income:** | >$100.000 |
| **Number of offices:** | > 1 |
| **Number of Employees:** | > 3 |
| **Budget:** | >$25.000 |
| **Country:** | Bosnia and Herzegovina |
| **Business objectives:** | * Annual user growth * Application development * Quality customer support |
| **What cities do they come from:** | Sarajevo, Banja Luka, Mostar, Tuzla, Zenica, Bihać ... other cities in BiH. |
| **Behaviors of target companies:** | * High-quality patient care * Financial stability * Access to innovative therapies and technologies |

## Market/Industry Analysis

**A. Market/Industry Growth/Disease"**

In Europe, and subsequently in transition countries, there is a notably high incidence rate of CVD, which continues to rise. Developed countries are investing significant financial resources to halt the increase in cardiovascular disease mortality.

Bosnia and Herzegovina, like most transition countries, exhibits a steady trend of increasing morbidity from CVD and a dramatic trend of rising CVD mortality. Unfortunately, it does not allocate adequately appropriate funds for preventive programs in this aspect of healthcare. In addition to high mortality and morbidity rates, absenteeism due to CVD accounts for almost 80%, disability reaches 80,000 out of 100,000, and the cost for CVD in total healthcare expenditure ranges between 30 and 54%.

The situation is alarming. Prevention must be a continuous process in family healthcare, outpatient care, and hospital care, meaning preventive measures must be implemented throughout one's lifetime.

**B. Market Trends**

Understanding cardiovascular disease market trends becomes crucial for developing effective strategies in the healthcare sector, pharmaceutical industry, medical technology, and other related sectors. This document addresses current trends, challenges, and opportunities in the cardiovascular disease market, offering insight into a dynamic environment that demands continuous innovation and collaboration to improve people's health worldwide.

**Increasing Incidence:** The global trend shows an increase in the number of people suffering from cardiovascular diseases, including heart diseases, strokes, and other related issues. This could be a result of various factors, including population aging, unhealthy dietary habits, lack of physical activity, and an increase in obesity rates. Developed countries often have a higher incidence rate of cardiovascular diseases compared to less developed countries, which is associated with a higher rate of urbanization, changes in dietary habits (including increased consumption of processed and high-calorie foods), reduced physical activity, and increased stress.

**Growing Awareness of Prevention:** There is a growing awareness of the importance of preventing cardiovascular diseases through lifestyle changes, including healthy eating, regular physical activity, and smoking cessation. This opens up the market for products and services that support prevention and promote heart health.

**Technological Advancement:** Advances in medical technology enable the development of new diagnostic methods, therapies, and medical devices for treating cardiovascular diseases. This includes innovations such as smart health monitoring devices, technology for minimally invasive surgeries, and advanced therapeutic approaches.

**Personalized Medicine:** The development of personalized medicine allows access to individualized therapies and treatments for patients with cardiovascular diseases. This includes genetic testing, biomarker analysis, and other diagnostic tools that help determine the most effective treatment approach for each patient.

**Integrated Healthcare System:** Integrated healthcare systems that connect various components of healthcare, including primary healthcare, specialized care, rehabilitation, and monitoring of chronic diseases, can improve the management of cardiovascular diseases and provide continuous care to patients.

These trends shape the cardiovascular disease market and influence the development of products, services, and therapeutic approaches in this area. Our product can fully leverage current trends in the cardiovascular disease market to provide users with effective tools for prevention and diagnosis.

The product has a multilingual nature, making the whole of Europe a potential market.

# Implementation Description / Launching Strategies

In a technologically competitive and rapidly evolving industry facing rapid changes in market competitiveness factors, the nature of marketing planning is dynamically changing to cope with the changing market environment.

Companies have realized that a product without marketing will not succeed, regardless of its intrinsic value, so more and more money is invested in marketing each year.

One of the fundamental strategies in marketing is the concept of the marketing mix. This represents a combination of elements used to achieve company objectives. This concept involves decisions about four basic variables: product, place, price, and promotion. Therefore, defining the marketing mix involves identifying and defining these four elements. It is also important to emphasize that in addition to completing the product, it is essential to provide infrastructure support.

After completing product development and obtaining the necessary certifications for product distribution to the market, it is important to decide on pricing, including the price levels at which the product will be offered. Also, within the pricing decision, types of discounts and payment methods are determined. The final price will include current costs as well as government measures and regulations.

Product promotion will involve the selection and combination of communication content, forms, and media through which the company will present and promote itself in the market.

Product promotion will be carried out in the following ways:

* Creating a website containing all necessary product information;
* Opening Facebook, Instagram, and LinkedIn profiles and creating campaigns on these networks;
* Presenting the product on TV and radio shows that cover cardiovascular diseases;
* Presenting the product to healthcare institutions and at medical conferences;
* Establishing partnerships with insurance companies and pharmaceutical companies to promote the product through their marketing channels
* We rely on product promotion through a referral system from user to user.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Business goals | Marketing priorities | Marketing objectives | Marketing strategy | Key activities | Risks |
| Secure initial capital from investors and institutions.  Stay within the realistic budget framework in the first year of operation.  Increase product sales and maintain market presence. (2024 - 2025) | Increasing product sales through direct and online sales.  Attracting new customers.  Tracking feedback from service users. | Expanding the user network.  Achieving customer and user satisfaction.  Profit growth. | Advertising through social media, TV, and radio shows.  Presentation at professional conferences.  Offering a free trial. | Seeking clients.    Customer relations. | Investor withdrawal.    Market disinterest.    Limited financial capabilities.    Competition entering the market with a similar product.    Employees leaving for another company. |

Marketing plan

## Goal from a Financial Perspective

Time and money are limited resources, and both need to be managed responsibly. Sources of financing can be: own funds (equity) and borrowed funds (bank loans). The registration of the company requires $831,40 (operating costs) and $554,26 for the initial capital.

Our goal is to achieve a financial revenue within the first 12 months of the company's existence from:

* Subscriptions - individuals;
* Subscriptions - healthcare institutions;
* Marketing services;

1. Monthly Goals for AI Prevention

|  |  |
| --- | --- |
| Month | Number of subscriptions |
| January | 10 |
| February | 20 |
| March | 40 |
| April | 60 |
| May | 100 |
| June | 130 |
| July | 140 |
| August | 150 |
| September | 160 |
| October | 165 |
| November | 170 |
| December | 173 |
| Total: | **1318** |

Goal of the number of new users of the app per month

Some % of users might use the app again we believe its realistic that at least 30% (395 users in first year) of them use it up to 4 times (e.g. either cause they are not happy with the result, of after 3-4 months they might retest themself with different inputs) therefor the final calculation is:

((1318-395) + (395x4)) x $5 = 2503 x $5 = $12.515

Total revenue in the first year of operation

|  |  |  |
| --- | --- | --- |
| First year | Second year (+20%) | Third year (+40% of year 2) |
| $12.515 | $15.018 | above $21.000 |

Projected revenue for 3 years of operation

We believe some users will stick using the app while others might not however we see a constant increase in the usage of the app.

2. Healthcare Institutions

We have considered all types of healthcare institutions in the assessment. It is known that in Bosnia and Herzegovina, there are 4 major clinical centers and 20 general and cantonal hospitals.

In Bosnia and Herzegovina, health centers are a key part of primary healthcare. They provide various health services to the population at the local level, including preventive check-ups, treatment of acute conditions, chronic diseases, counseling on health issues, and similar. The number of health centers varies depending on the region and demographic characteristics, but they are usually found in every major populated area. Based on the number of municipalities, we estimate that there are around 150 health centers nationwide.

Private specialized clinics are also part of the healthcare system. According to data from the Health Insurance Institute of Bosnia and Herzegovina, there are around 100 specialized clinics actively dealing with cardiovascular diseases.

Our goal is to establish cooperation with 15 healthcare institutions within a period of 12 months.

For this period, we we assume that the ones which would join our API solution would be around 10 hospitals and we assume those are the smaller hospitals since at that point we have not established a brand. We believe that the amount of doctors in each of those hospitals is around 20 which means that they would pay around $250 per month for the API solution.

For the other 5 hospitals we also would assume that those are between 16 and 75 and since we would in the initial year want to establish a foot in the door we would charge them only for the hosting cost and not the API which still would give us a GM of 75 as we concluded in section 3.3.

This means that on average we would make $3000 annually per hospital.

|  |  |  |
| --- | --- | --- |
| First year (15 hospitals) | Second year (30) | Third year (50 hospitals) |
| $45.000 | $90.000 | $150.000 |

Planned revenue for 3 years of operation

3. Marketing services

We believe that our application provides a unique opportunity for direct engagement with a wider range of users, including patients, physicians, pharmaceutical, and other healthcare institutions.

Once we achieve a larger number of subscribers, we will offer the following services to the market:

* Advertising banners;
* Appointment scheduling at recommended healthcare institutions;

**5.1.1 Marketing costs**

|  |  |
| --- | --- |
| Online advertising | 5,000 $ per year |
| Meetings and conferences | 5,000 $ per year |
| TV show advertisements | 5,000 $ per year |

## Action Plan

The action plan aims to achieve all the stated business goals. Through the identification of key tasks, responsible individuals, and setting deadlines for activity execution, we will create a structured and organized approach to goal achievement. Realistically set goals, along with plan adaptability, will enable us to effectively respond to changes in the business environment and achieve desired results. Through teamwork, resource engagement, and continuous progress monitoring, we believe we will successfully implement all goals and achieve the desired outcomes.   
  
Considering the fact that the application is multilingual and will be available worldwide, we expect the number of individual subscriptions to exceed the planned target. For the realization of this task, online customer sales and support are crucial.

Our plan is to organize 8 presentations in healthcare institutions monthly, totaling 96 for a one-year period. We believe that achieving a plan of 50 contracted subscriptions is realistically attainable. Additionally, we will establish contact with healthcare institutions through presentations at medical conferences and webinars.

Planned marketing services will enable us to achieve our planned goals more quickly.

Also, one of the strategic goals is to establish cooperation with health insurance companies, insurance companies, pharmaceutical, and hosting companies. If we establish cooperation with these institutions, we will create a competitive advantage over the competition.

Based on the data provided, it can be concluded that the company will operate positively already in the first year. It is also important to consider that there is still room for growth and development in the future.

# Company structure

* 1. Company structure

A screenshot of a computer

Description automatically generatedFrom Hearty will be structured into specialized departments, each focused on distinct responsibilities crucial for the advancement of our mission. These departments will directly contribute to our growth and long-term success. Our organizational framework will include the following departments: Financial, Marketing, Operations, Commercial, Engineering, Sales, Legal, and HR. Each department will be dedicated to fulfilling specific tasks aligned with our objectives. Under the guidance of the CEO, these departments will collaborate seamlessly to achieve our goals and uphold our company's mission of revolutionizing cardiovascular disease prediction through From Hearty.

# Financial plan

## Profit & loss projection (P&L)

In section 3.3. we concluded in the marketing section the GM is above 75%, in the global financial perspective we concluded the targets over the 3 years. Below is a summary of the profits and losses.

First year target 15 hostpitals

* 1 employee $700\*12=$8.400
* Cost of staring a company $831,40
* 1 laptop worth $1.700
* Total marketing cost $15.000
* $700 monthly accounting = $8.400
* $45.000 (75%) = $33.750
* $12.515 (30% fee of appstore & playstore) = $8.760,5

Second year target 30 hospitals

* 2 employee $2000\*12 =$24.000
* 1 laptop worth $1.700
* Total marketing cost $10.000
* $1.300 monthly accounting = $15.600
* $90.000 (75% GM) hospital annual subscription = $67.500
* $15.018 (30% fee of appstore & playstore) = $10.512,6

Third year target 50 hospitals

* 3 employee $4000\*12 =$48.000
* 1 laptop worth $1.700
* Total marketing cost $10.000
* $1.500 monthly accounting=$18.000
* $150.000 (75% GM) = $112.500
* 21.000 (30% fee of appstore & playstore) = $14.700

|  |  |  |  |
| --- | --- | --- | --- |
|  | First year | Second year | Third year |
| Employee cost | $8.400,00 | $24.000,00 | $48.000,00 |
| Cost of starting a company | $831,40 | $0,00 | $0,00 |
| Equipment | $1.700,00 | $1.700,00 | $1.700,00 |
| Marketing cost | $15.000,00 | $10.000,00 | $10.000,00 |
| Accounting cost | $8.400,00 | $15.000,00 | $18.000,00 |
| Total cost | **32.633,10** | **$50.700,00** | **$77.700,00** |
| Hospital annual subscription profit | $33.750,00 | $67.500,00 | $112.500,00 |
| Application profit | $8.760,50 | $10.512,60 | $14.700,00 |
| Total revenue | **$42.510,50** | **$78.012,60** | **$127.200,00** |
| Profit % | **23%** | **64%** | **69%** |
| Profit | **$9.877,00** | **$27.312,00** | **$49.500,00** |

## Startup budget

In order to start this business we believe we will need the costs covered in the first year plus 30% of unexpected expenses.

|  |  |
| --- | --- |
|  | First year |
| Employee cost | $8.400,00 |
| Cost of starting a company | $831,40 |
| Equipment | $1.700,00 |
| Marketing cost | $15.000,00 |
| Accounting cost | $8.400,00 |
| Unexpected expenses | $9.789,9 |
| Total cost | **$42.422,9** |