Darko Innovex

Unleashing Innovation, Exceeding Expectations

# Project Ayu Proposal



darkoinnovex@gmail.com

# Document Information

**Compiled by:**

| Name | Date | Signature |
|---|---|---|
| Mis.Nethmi Umaya | 20 / 05 / 2024 | |

**Reviewed and edited by:**

| Name | Date | Signature |
|---|---|---|
| Mr.Gayanuka Bulegoda | 20 / 05 / 2024 | |
| Mis.Chalani Chamodya | 20 / 05 / 2024 | |
| Mis.Nethmi Umaya | 20 / 05 / 2024 | |
| Mis.Madushi Illesinghe | 20 / 05 / 2024 | |

**Approved by:**

| Name | Date | Signature |
|---|---|---|
| Mr.Gayanuka Bulegoda | 20 / 05 / 2024 | |
| Mr.Janindu Lokitha | 20 / 05 / 2024 | |

# Table of Contents


**1. Confidentiality Agreement**…….. 4

**2. Executive Summary**……. 5

**3. Project Overview**.

3.1 Project Statement……. 6

3.2 Project Scope…… 8

**4. Industry Analysis**

4.1 Industry size, growth rate, and sales projections…… 10

4.2 Industry structure..…….. 10

4.3 Nature of participants…… 10

4.4 Key success factors…… 11

4.5 Industry trends…… 11

4.6 Industry Sector Analysis…… 11

4.7 Competitor Analysis…….. 12

4.8 Long-term prospects…….. 12

**5. Company Description**…… 13

**6. Market Research**……..…… 14

**7. Marketing Plan**

7.1 Product or Service features……..…… 15

7.2 Positioning of the product / service..……... 16

7.3 Market your product /service……..……. 16

**8. Design and development plan**……... 18

**9. Operational proposal plan**……. 19

9.1 Production…… 21

9.2 Database……... 21

**10. Management & Organization**

10.1 Gaps…….. 23

**11. Overall Schedule**…….. 24

**12. Financial Plan**…….. 25

12.1 Cash flow projection…… 26

**13. Appendices**…… 28

## 1. Confidentiality Agreement

The undersigned reader acknowledges that any information provided by Darko Innovex team in this proposal, other than information that is in the public domain, is confidential in nature, and that any disclosure or use of the same by the reader may cause serious harm or damage to system users. Therefore, the undersigned agrees not to disclose it without express written permission from system users.

Upon request, the undersigned reader will immediately return this document to Darko Innovex.

_____

Signature

_____

Name

_____

Date

This is a business proposal. It does not imply an offering of securities.

## 2. Executive Summary

*** An overview of the business**

Patients currently encounter difficulties trying to access their medical records from one healthcare facility in a region to another. This frequently results in the misplacement or loss of important medical records, which makes diagnosis and treatment more difficult. Our solution provides a comprehensive tracking and management system for individual medical records in an effort to close this gap.

*** A description of the product and service**

The Patient Medical Data Management System is a software solution designed to streamline the management of medical records across multiple hospitals within a region. Through the use of a NFC card with a centralized platform, patients can establish accounts that are connected to their individual identity cards. This makes it possible for accredited healthcare professionals to easily access, add, and update medical information and reports. The ability to receive medical reports via email, see-through treatment plans from doctors, schedule appointments, use AI for predictive analysis, conduct telemedicine, collect patient feedback, integrate with pharmacies, and make recommendations from doctors based on favorable reviews are additional important features. With the help of proactive healthcare management and easy access to medical information, this cutting-edge technology seeks to improve patient outcomes, optimize healthcare delivery, and maximize the patient experience overall.

# 3. Project Overview

## 3.1 Project Statement

The goal of our project is to create a Patient Medical Data Management System with NFC card for each patient, which will offer a centralized location for the management of medical records from several hospitals in the area. Our system makes it easy to access medical information, make appointments, and use telemedicine services by establishing individual patient accounts that are connected to distinct identity cards. Our objective is to improve patient outcomes, optimize the overall patient experience, and improve healthcare delivery through the combination of AI algorithms, predictive analytics, and patient feedback systems.

Challenges of manual system

1. Data accessibility: Manually obtaining medical records from several hospitals can be wasteful and time-consuming.
2. Data Security: Privacy and data security issues arise while handling physical copies of medical records.
3. Data Integrity: Manually entering and updating medical records carries a risk of human mistake that could skew the results.
4. Patient Convenience: Patients may find it difficult to make appointments and obtain their medical records when visiting several institutions.
5. Limited Analysis: Proactive healthcare management is hampered by manual systems' incapacity to do sophisticated analytics and predictive insights.

Solutions

1. Centralized Database: You can simplify data administration and access a centralized database that is available to all hospitals.
2. Electronic Health Records (EHR): Using electronic health records improves data security and privacy by reducing the need for hard copies.
3. Automation: Reduce possibility of human error and ensure data integrity.

4. Patient Portals: By creating mobile applications or patient portals, patients may easily make appointments and access their medical records.
5. Analytics Tools: By integrating AI tools that analyze previous medical records of the patient to predict future medical conditions which promotes proactive healthcare management and individualized treatment.

Advantages of these solutions,

1. NFC Card Integration: Provide a system that securely stores and retrieves patient data using NFC cards.
2. Convenience: Through emailing / attaching patient's medical reports, reducing time waste.
3. Treatment Visibility: Each linked hospital has access to comprehensive schedules of physicians' treatment plans, which encourages openness and well-informed decision-making.
4. Appointment Scheduling: By using the program, patients may directly make appointments with doctors, cutting down on wait times and increasing accessibility to medical care.
5. Predictive Analysis: By utilizing AI algorithms, future medical issues can be predicted based on previous medical data, giving patients the ability to take preventative care of their health.
6. Telemedicine: Through the system, patients can consult medical professionals for advice and guidance. This improves accessibility to healthcare services, particularly in distant places.
7. Feedback Mechanism: By encouraging responsibility and raising the standard of service, patients can offer evaluations and suggestions for medical professionals.
8. Pharmacy Integration: By facilitating medicine purchases and refills, integration with neighborhood pharmacies improves patient convenience.

9. Doctor suggestions: A search facility that makes suggestions for doctors based on well-informed referrals makes it simple for patients to locate reliable medical professionals.

### 3.2 Project Scope

The development, deployment, and implementation of a comprehensive software solution with the goal of enhancing the management of medical data across several hospitals in a designated area are all included in the scope of the Patient Medical Data Management System project. The following are the main elements of the project scope

1. NFC Card Integration: Provide a system that securely stores and retrieves patient data using NFC cards.
2. Enable patients to establish accounts that are connected to their NFC cards so they may easily access their medical records.
3. Hospital Connectivity: To guarantee that patient data can be accessed and updated across various healthcare institutions, establish connections with several hospitals in the area.
4. Data management: To securely store and manage patient information while guaranteeing adherence to data protection laws, establish a centralized database.
5. Medical Record Access: To promote effective diagnosis and treatment, permit authorized healthcare workers to access patient medical records kept on the NFC card.
6. Appointment Scheduling: To increase accessibility to healthcare services, implement the ability for patients to make direct appointments with hospitals via the system.
7. Integration of Telemedicine: By incorporating telemedicine capabilities, patients can consult with medical professionals from a distance, improving access to healthcare, particularly in rural areas.
8. AI-driven Predictive Analysis: Apply AI algorithms to evaluate patient health data and offer prognostications about potential health issues, allowing for proactive healthcare administration.
9. Pharmacy Integration: To improve patient convenience, integrate with nearby pharmacies to make it easier for patients to buy and refill medications.

10. Doctor Recommendations: Create a search function that recommends physicians based on well-informed referrals, assisting patients in quickly locating reliable medical professionals.
11. Patient Feedback Mechanism: To encourage accountability and transparency, provide a feedback mechanism where patients can leave ratings and suggestions for healthcare physicians.

# 4. Industry Analysis

## 4.1 Industry size, growth rate, and sales projections

- In recent years, there has been a notable surge in the expansion of technology in the healthcare sector.
- The market is predicted to continue developing because of the rising digitization of medical records and the rising need for effective healthcare management solutions.
- Based on sales estimates, there is a constant increase in demand for patient medical data management systems. These drives include government objectives for digital healthcare transformation, increased patient expectations, and improved healthcare infrastructure.

## 4.2 Industry structure

- The main users of these systems are patients and healthcare providers like hospitals, who depend on them to improve patient care and streamline operations.
- A major component of managing patient medical data through systems is the work of software companies that specialize in healthcare IT solutions.

## 4.3 Nature of participants

- The industry's players range from well-established software firms with specialized healthcare divisions to start-ups that only concentrate on medical technology.
- In order to create and execute patient medical data management systems that are suited to their unique requirements, healthcare administrators frequently work with software vendors.
- Governmental organizations and regulatory authorities may also influence corporate norms and policies for the management of healthcare data.

### 4.4 Key success factors

- Technological Innovation: To be competitive, software development must constantly innovate. Examples include telemedicine integration and AI-driven analytics.
- Data Security and Compliance: Gaining the confidence and credibility of patients and healthcare providers requires implementing strong data security measures and adhering to healthcare standards.
- User Experience: The success of patient medical data management systems is fueled by user-friendly interfaces and intuitive features, which increase adoption rates and user satisfaction.
- Interoperability: Systems that can connect across several platforms and integrate easily with the current healthcare infrastructure are highly prized in the sector.

### 4.5 Industry trends

- Adoption of Cloud-Based Solutions: Scalability, flexibility, and cost-effectiveness are offered by the growing use of cloud-based platforms for the storage and retrieval of medical records.
- AI and Predictive Analytics: Due to its capacity to evaluate enormous datasets and offer insightful information for individualized patient care, AI-driven predictive analytics solutions are becoming more and more well-known.

### 4.6 Industry sector analysis

- A vast array of goods and services are included in the healthcare technology industry, such as patient engagement programs, medical imaging software, telemedicine platforms, and electronic health record (EHR) systems.
- Within the healthcare technology industry, patient medical data management systems with significant NFC cards constitute a substantial market share, providing specialized solutions for patient record administration and access.

### 4.7 Competitor analysis

- Major competitors in our industry may offer similar features and functionalities, including electronic health record (EHR) systems, appointment scheduling, and telemedicine integration. However, these services may be unique to certain groups of companies or privately owned firms.
- Pricing, customizable choices, customer service, and reputation in the healthcare sector are a few examples of differentiating aspects.

### 4.8 Long term prospects

- The patient data management system business has promising long-term prospects due to the continuous digital transformation initiatives in healthcare, changing patient expectations, and technological improvements.
- For long-term growth and innovation to be sustained, research and development spending must continue, and strategic alliances with technology partners and healthcare providers are essential.

## 5. Company Description

**Business name** :- Efficient patient management process through innovative software solution (Project Ayu).

**Company mission statement** :- Exceed the expectations by going beyond software to provide best software solutions that transform data into knowledge, enabling them to solve their problems.

**Company philosophy/ values** :-

- Efficiency - Streamlining processes for all stakeholders.
- Innovation - Embracing technology for smarter solutions.
- Transparency - Clear and real - time information.
- Customer Focus - Enhancing experiences for all.
- Collaboration - Working together for better outcomes.
- Continuous Improvement - Always refining our services.
- Community Impact - Supporting the healthcare sector.

**Company vision** :- Our Vision is to be a leading Software Solution company in the IT sector and progress in our current position in the market. We know that Customer's growth is our growth, so we commit our customers to help in achieving their business goals. We believe in work with accuracy and best quality. We want to be known as the reliable, innovative and user friendly software service provider in the IT industry.

## 6. Market Research

The Patient Medical Data Management System project's market research includes obtaining and examining data pertinent to the target market, which comprises patients, healthcare providers, and other stakeholders. Understanding potential users' wants and preferences, evaluating the competitive environment, and identifying market possibilities and problems are the main goals of market research.

Significant components of this project's market research include:

- User needs assessment: To find out about the preferences, difficulties, and needs of patients and healthcare professionals about medical record management and services, conduct focus groups, interviews, and surveys with them.
- Competitive Analysis: Identify competitors, evaluate their advantages and disadvantages, and comprehend market trends and advances by analyzing current patient medical data management systems and healthcare IT solutions.
- Regulatory and Legal Considerations: To guarantee compliance and reduce regulatory risks related to storing and maintaining patient medical records, research data privacy laws, industry standards, and healthcare regulations.
- Technological Trends: Keep up with the latest developments in technology that could improve the usability and functionality of the patient medical data management system. Examples of these include cloud computing, telemedicine, and AI-driven analytics.
- Feasibility Analysis: Determine whether it is feasible to implement the suggested solution in the intended market while taking cost-effectiveness, scalability, and infrastructure needs into account.
- Market Size and Growth Potential: Compute the target market's size, evaluate the speed at which healthcare technology is being adopted, and predict the future need for patient data management systems.

The project team can evaluate market opportunities and risks, obtain important insights into the requirements and preferences of potential users, and create a plan for the successful launch and promotion of the Patient Medical Data Management System in the healthcare sector by carrying out thorough market research.

## 7. Marketing Plan

### 7.1 Product or Service Features

Our innovative software solution aims that the user can create an account ( per ID card ), if the relevant hospital is connected to our software, the hospital is able to analyze the patient's previous medical conditions and reports, or to add newer medical conditions and attach reports to the desired patient's account ( the hospital is permitted to access the patient's account only if the patient provides his or her card ).

Features,

- Provide patient’s report via email is convenient and efficient - It saves them time and energy by allowing them to access the information without having to make another trip to the hospital.
- Detailed view of the doctor's treatment schedule for each connected hospital.
- Furthermore, the patient is able to make an appointment directly with the relevant hospital through the software.
- It is possible to integrate an artificial intelligence to predict future medical conditions based on previous medical reports and conditions. ( Assists patients in managing their health conditions more effectively ).
- Through the patient's account, the patient can ask questions concerning health problems so that the doctor or recommended medical surgeon can respond when possible.
- A patient may provide a recommendation review to the doctor who has treated him or her.
- For better customer service, it is possible to integrate available pharmacies as well.
- Possibility of adding a search facility to suggest doctors for the fields based on the number of positive recommendations

### 7.2 Positioning of the product / service

Our software solution occupies a unique niche within the hospital Industry. The user can create an account using their ID card. If the hospital is connected  to our software, the hospital management can manage the patient's medical history and reports on the patient's account. The hospital can access the patient's account only with the patient's permission.

### 7.3 Market your product / service

- Advertising Tactics: We'll leverage a combination of online and local channels to target our audience effectively.
- Emails: Send newsletters with industry insights, software updates, and Promotions.
- Public Relations: Collaborate with online media to feature our innovation.
- Networking: Build relationships with medical associations and influencers for referrals.
- Website: Develop a user-friendly site highlighting solution features, testimonials, and benefits.
- Logo: A modern logo with nautical elements, representing streamlined hospital processes.
- Color Palette: green,white and black, fostering trust and a hospital connection.
- Website and Materials: Modern design with cohesive elements, reinforcing our transformational stance.

- Branding and Design: Our brand will convey innovation, efficiency, and reliability.
- Social Media: Share engaging content, success stories, and updates to connect with our audience.
- Online: Engage hospitals through social media platforms like Facebook and Instagram, showcasing our solution's benefits.
- SEO: Optimize our website for key industry-related search terms.
- Marketing Tactics: Our focus is on establishing a strong online presence and fostering relationships.

## 8. Design and development plan

- Feasibility Assessment :- Evaluate existing systems and identify technical requirements.
- Software development :- Backend and frontend development, integration, and notification System.
- Data Management :- Secure storage and retrieval tools for medical data and records.
- User Experience Design :- Intuitive interfaces for hospital crew and patients.
- Testing and Quality Assurance :- Rigorous testing to identify and rectify issues.
- Support and Maintenance :- User support, update, and improvements.

## 9. Operational and proposal plan

❖ Objectives :-

Automate the medical data management by tracking personalized medical records and medical conditions can reduce processing time, eliminating manual paperwork, and enhancing overall efficiency.

❖ Personnel :-

- Development Team - Software design and development.
- Implementation - Integration and training.
- Hospital Crew - Manage the personalized medical records and medical conditions

❖ Processes :-

- A system that securely stores and retrieves patient data using NFC cards.
- Allow patients to link their NFC cards to their accounts for convenient access to their medical records.
- The goal is to ensure that patient information can be easily shared and updated among multiple hospitals by forming connections with various healthcare institutions in the area.
- Data management: To securely store and manage patient information while guaranteeing adherence to data protection laws, establish a centralized database.
- Medical Record Access: To promote effective diagnosis and treatment, permit authorized healthcare workers to access patient medical records using the NFC card.
- Appointment Scheduling: To increase accessibility to healthcare services, implement the ability for patients to make direct appointments with hospitals via the system.
- Integration of Telemedicine: By incorporating telemedicine capabilities, patients can consult with medical professionals from a distance, improving access to healthcare, particularly in rural areas.

- AI-driven Predictive Analysis: Apply AI algorithms to evaluate patient medical data and offer prognostications about potential health issues, allowing for proactive healthcare administration.
- Pharmacy Integration: To improve patient convenience, integrate with nearby pharmacies to make it easier for patients to buy and refill medications.
- Doctor Recommendations: Create a search function that recommends physicians based on well-informed referrals, assisting patients in quickly locating reliable medical professionals.
- Patient Feedback Mechanism: To encourage accountability and transparency, provide a feedback mechanism where patients can offer ratings and suggestions for physicians.

❖ Benefits,

Time Efficiency

Accuracy

Convenience

Data Analysis

Customer Satisfaction

❖ Timeline,

Requirements - 2 weeks

Development - 8 weeks

Integration - 4 weeks

Training - 2 weeks

❖ Conclusion,

The software solution offers efficient, user-friendly NFC automation, improving operations and patient's medical at Hospital.

## 9.1 Production

### Production Method :-

The software solution will be developed and implemented through the following steps.

- ❖ Requirements Gathering - Understand current processes of the hospital.
- ❖ Software Design - Create a comprehensive design for patients' medical data management process automation.
- ❖ Development - Code the solution with necessary features.
- ❖ Testing - Thoroughly tested for accuracy and reliability.
- ❖ Integration - Connect software with existing systems.
- ❖ Employee Training - Provide training on software usage.
- ❖ Equipment - Standard computers, servers / cloud infrastructure, network equipment.
- ❖ Costs - Cover development, infrastructure, training, integration, and ongoing maintenance.

## 9.2 Database

Since the proposed software solution primarily focuses on automating patients' medical data management processes and improving operational efficiency.

However, there are aspects of digital resources and medical data management that can be considered as part of a "centralized database" within the context of the software solution.

### Centralized database:-

- ❖ Digital Assets - The software and its associated resources, including codebase, design files, documentation, and databases can be considered as valuable digital assets that need to be managed effectively.

❖ Data management - The data added by the software, tracking personalized medical records with medical conditions should be organized and stored securely. Data management practices ensure the availability, accuracy, and confidentiality.

❖ Backups - Regular backups of the software code, databases, and other digital assets are essential to prevent data loss and maintain the integrity of the software solution.

❖ Lead Time - The lead time for managing centralized databases, such as updates, enhancements, or modifications to the software, depends on the development and testing cycles. It's crucial to have an efficient software development process to reduce lead times and respond to change requirements promptly.

## 10. Management & Organization

### 10.1 Gaps

Recognizing potential gaps in our team's expertise, we are committed to filling these gaps strategically to ensure the success of the patients' medical data management system.

❖ Sales and marketing - We intend to collaborate with outside sales representatives or consultants with industry - specific expertise to manage sales and marketing efforts.

❖ Industry Insight - To navigate the hospital industry effectively, we will engage an experienced hospital consultant to provide insights into hospital operations and compliance.

Bridging these gaps will ensure a well - rounded team, contributing to the success of software solution.

## 11. Overall Schedule

| **Key Activity** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning | | | | | | | | | | | |
| Analysis | | | | | | | | | | | |
| Design | | | | | | | | | | | |
| Development | | | | | | | | | | | |
| Implementation | | | | | | | | | | | |
| Evaluation | | | | | | | | | | | |
| Support | | | | | | | | | | | |

## 12. Financial Plan

Developing a robust financial plan is crucial to the success of our innovative patient medical data management software solution. This plan outlines our financial goals, projections, and funding requirements to ensure the efficient implementation and sustained growth of our software.

1. Startup Costs: Detail the initial investments required for software development, user training, marketing, and operational setup.

2. Revenue Projections: Provide a clear breakdown of projected revenue streams, considering adoption rates, transaction volume, and pricing models.

3. Operating Expenses: List ongoing expenses including personnel, software maintenance, marketing, and customer support.

4. Funding Requirements: Outline the amount of capital needed to cover startup costs and initial operating expenses until the sustaining.

5. Financing Sources: Detail how the required funds will be sourced, whether through equity investments, loans, grants, or other avenues.

6. Cash Flow Statement: Highlight the inflow and outflow of cash to assess liquidity and manage cash reserves effectively.

7. Balance Sheet: Display the team's assets, liabilities, and equity at a specific point in time, indicating its financial health.

8. Sensitivity Analysis: Perform scenarios to assess how variations in key variables (adoption rate, pricing, expenses) impact financial outcomes.

9. Exit Strategy: If applicable, outline potential exit strategies for investors, such as acquisition or initial public offering (IPO).

Our financial plan serves as a blueprint for managing resources, attracting investors, and ensuring the sustainable growth of the Patient medical data managing system using NFC Cards. By meticulously analyzing financial projections and funding requirements, we position ourselves for long-term success in revolutionizing health operations.

**12.1 Cash flow projection**

A cash flow projection is an essential tool to ensure the financial stability and operational efficiency of the patient medical data managing software solution. It allows us to anticipate when cash will flow in and investments, and potential growth opportunities.

Key Elements of Cash Flow Projection :-

❖ inflows -

For the NFC Card which is prepared in-order to securely protect each and every patient's data, patients need to pay a defined fee to the card (manufacture fee).

❖ Outflows -

Development Costs: Expenditures related to software development, software tools, and testing.

Implementation Expenses: Costs associated with integrating the software with existing systems at the hospitals.

Marketing and Sales Costs: Expenses for promoting the software and attracting customers.

Operational Costs: Regular expenses like utilities.

Support and Maintenance: Funds allocated for ongoing software updates, customer support, and maintenance.

❖ Cash Reserves:- Ensuring we maintain a buffer of cash reserves to cover unforeseen expenses and maintain operational continuity.

❖ Benefits of Cash Flow Projection:-

Effective Budgeting: Helps allocate resources efficiently and avoid Overspending.

Financial Planning: Assists in determining when to make investments or expansion decisions.

Avoiding Shortfalls: Ensures that the business does not run out of funds during critical periods.

Opportunity Assessment: Identifies surplus cash that can be invested in growth initiatives.

## 13. Appendices

In the appendices, you'll find supporting materials that substantiate the claims and assumptions made in our proposal to revolutionize the managing patient medical data using the NFC Card process. These materials provide a comprehensive understanding of our solution's feasibility and potential impact. The following elements are included.

❖ Agreements: Contracts outlining collaborations with relevant stakeholders, ensuring a seamless integration of our software.

❖ Intellectual Property: Details of licenses and patents securing the proprietary aspects of our software solution.

❖ Resumes: Profiles of key team members, showcasing their expertise in software development

❖Advertising and Marketing Materials: Samples of promotional content, including social media posts and print advertisements.

❖ Public Relations and Publicity: Articles and press releases highlighting our innovation in the health industry.

❖ Blueprints and Plans: Technical blueprints and visualizations depicting the software's architecture and user interfaces.

❖ List of Equipment: An inventory of technological tools utilized in software development and implementation.

❖ Market Research Studies: Comprehensive reports outlining industry trends, challenges, and potential market size.

❖ Collateral Assets: A list of assets that can be used as collateral, ensuring financial stability and commitment.