

June 2024



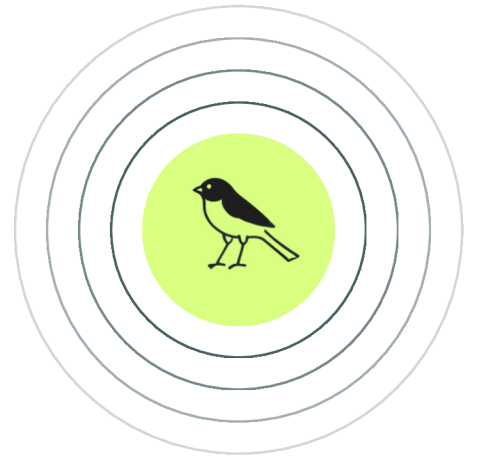
Canary

An NFC Beacon Guidance
Technology System for
Universal Access



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Introduction

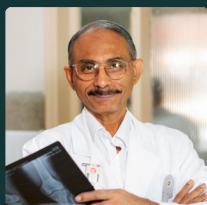
The aim of this project is to develop an NFC Beacon Guidance Technology System designed specifically to assist with universal access, especially for those who have difficulty reading written text in navigating indoor environments in schools, colleges, hospitals or for that matter any public building or space. The system will use NFC (Near Field Communication) technology to provide real-time location-based audio guidance, enhancing accessibility and independence for all users of such spaces.



Meet the Team

Dr Mathew Varghese

Founder

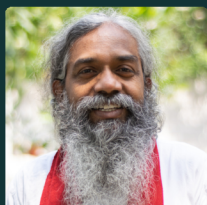


Dr Smriti Singh

Accessibility Consultant

Dr Santhosh G

National Integration Coordinator

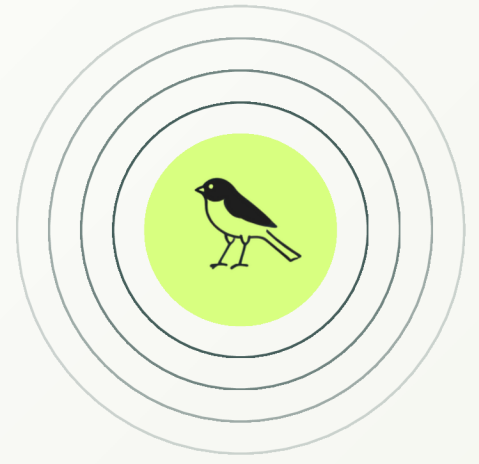


Andrews Angels

Product Manager/
Tech Lead

Project Team

- Project Manager
- Hardware Engineer
- Software Developers (Android and iOS)
- User Experience Designer
- Accessibility Consultant
- Quality Assurance Tester
- Technical Support Staff



Objectives

01

Develop a user-friendly mobile application that utilizes NFC technology to provide audio navigation assistance.

03

Ensure the system is accessible and meets the needs of visually challenged individuals through rigorous testing and feedback.

02

Deploy NFC beacons at strategic locations within selected indoor environments to guide users.

04

Create a scalable and maintainable system that can be expanded to various environments and updated easily.



Scope of Work

Planning and Design #1

- Conduct a needs assessment with persons who are unable to read or see written directions to navigate environments.
- Identify and map out the pilot locations for NFC beacon deployment.
- Design the system architecture and user interface of the mobile application.

Hardware Development #2

- Select and procure NFC beacons.
- Program NFC beacons with unique identifiers and location-specific data.
- Develop installation guidelines for optimal placement of NFC beacons.

Software Development #3

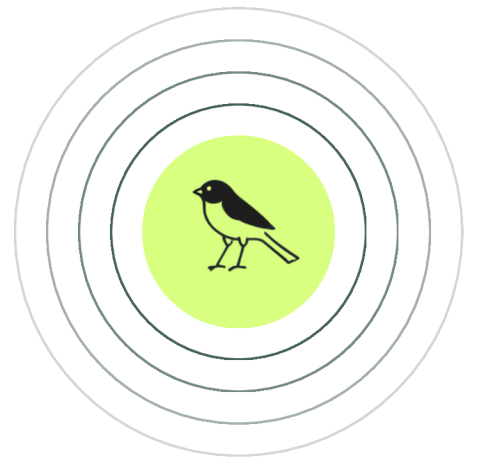
- Develop the mobile application for both Android and iOS platforms.
 - Integrate NFC reading capabilities.
 - Implement Text-to-Speech (TTS) for audio guidance.
 - Design an accessible user interface with voice command support.
- Backend development for data management and dynamic updates (optional).

Testing and Feedback #4

- Conduct pilot testing in selected environments.
- Collect feedback from persons with difficulty in navigating and make necessary adjustments.
- Perform rigorous quality assurance testing to ensure reliability and accuracy.

Deployment and Training #5

- Install NFC beacons in the designated areas.
- Launch the mobile application.
- Conduct training sessions for users and support staff.
- Provide technical support and maintenance.



Scheduled Roadmap

Total Project Duration: 06 Months

01 Month

🚩 Planning and Design

02 Month

🚩 Hardware Development

03- 05 Month

🚩 Software Development

05 Month

🚩 Testing and Feedback

05- 06 Month

🚩 Deployment and Training



Proposed Budget

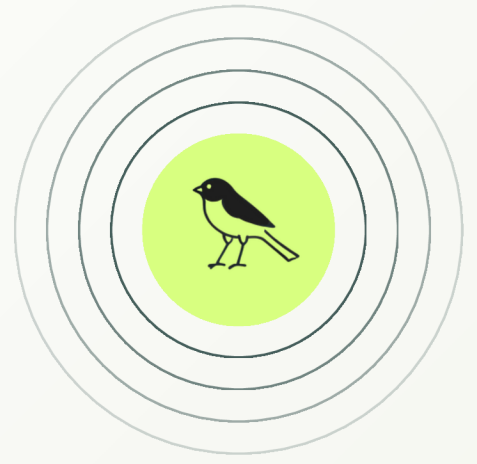
Task	Value
NFC Beacons (Hardware)	Rs 50,000
Mobile Application Development	Rs 456,708
Total	Rs 506,708



Proposed Budget

Mobile Application Development

Item & Description	Qty	Rate	CGST	SGST	Amount
Associate Requirements gathering, project management (BA/PM)- 3days /week x 2 months	25.2	2275	5159.7	5159.7	57330
Associate UI UX screen design and modifications (UI/UX)- 2 weeks	10	2340	2106	2106	23400
Associate Mobile Application Developer- 5 days/week x 2 months	42	2600	9828	9828	109200
Associate Backend developer- 5 days/week x 2 months	42	2600	9828	9828	109200
Associate Frontend developer	15	2600	3510	3510	39000
Associate DevOps / Testing / Support	21.5	2275	4402.13	4402.13	48912.5
				Total GST	69666
				Total	456708



Conclusion

This project aims to leverage NFC technology to create a robust guidance system for universal access. This is to ensure ease of access and to enhance navigating ability in built indoor spaces. This technology aims to facilitate free access to persons with limitations in reading signages. The design will enhance safe navigation in all publicly accessible built spaces.

By focusing on user-centred design and accessibility, we can ensure that the system meets the needs of its users.

The application's framework is scalable to be used in different indoor environments owing to NFC Beacon's investment.



Questions? Get in Touch!

Oppurtunities

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