

BUSINESS PLAN



THE VISION

“Embrace the future of school bus transportation”

Introduction of **OUR TEAM**



Sakshyam Acharya
Team Manager



Solomon Silwal
UI/UX Designer & Content
creator



Pramod Giri
Hardware Architect



Bibek Sapkota
Mobile App Development



Aryan Malla
Software Engineer



GUARDIAN WHEEL'S

CONTENTS

1. EXECUTIVE SUMMARY
2. MISSION AND VISION
3. MARKET ANALYSIS
4. CUSTOMER ANALYSIS
5. SWOT ANALYSIS
6. CORE VALUES
7. OPERATIONS
8. FINANCES
9. CONCLUSION

THE VISION



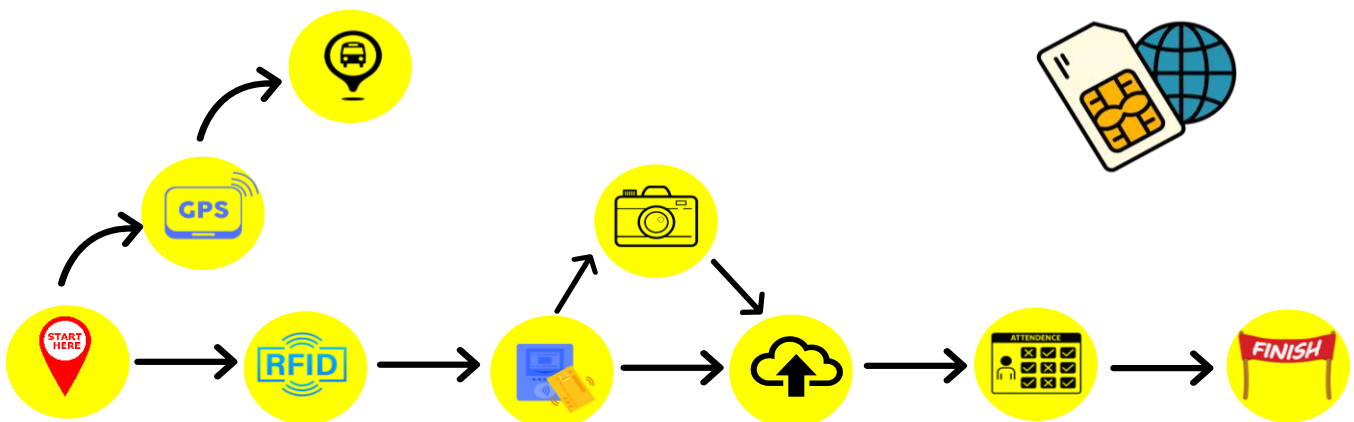
1. Executive Summary

- **Business Name:** Guardian Wheel's



- **Business Overview:**

The Smart School Bus Monitoring System is a comprehensive solution designed to enhance the efficiency and safety of school transportation. It offers various features and benefits for schools, parents, and bus operators:



Real-time Tracking:

Our technology offers real-time GPS bus tracking, allowing parents and school administration to keep track of bus whereabouts and anticipated arrival times. By removing confusion for students at bus stops, this improves safety.

Attendance Management:

Using RFID technology, which tracks student attendance automatically to reassure parents and educators that youngsters are brought to and from school in a secure manner.

Communication Tools:

For instant updates on bus locations, delays, and emergencies, our system offers smartphone apps and notifications. To ensure effective coordination, encourage two-way communication between parents and bus drivers.

Safety and Security:

Real-time tracking ought to put student safety first to avoid unnecessary deviations or halt. Get fast notifications about any crises, mishaps, or unusual behaviour on the bus.

Efficiency:

Enhance bus operations by optimizing routes and schedules. This will save money, shorten student's commutes, and benefit the environment by using less fuel and emitting fewer emissions.

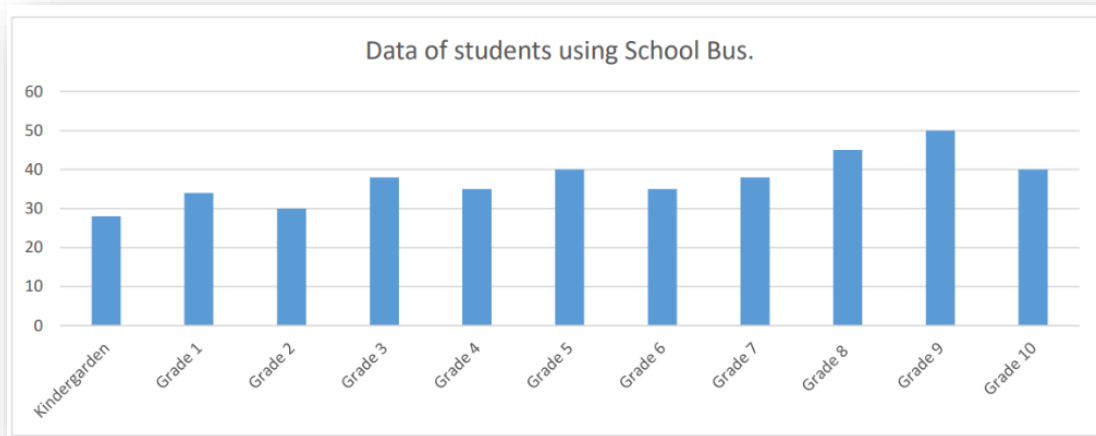
2. Vision

Smart School Bus Monitoring System is committed to a safer and more efficient global school bus system. We provide advanced safety features, attendance tracking, and seamless communication. Our adaptable technology and compliance with regulations aim to enhance school bus transportation worldwide for students, parents, and schools. We give technology first priority in order to protect students and enhance school bus operations.

Mission

- Our goal is to create an efficient and successful transportation system by streamlining procedures for parents, bus drivers, and schools.
- Our objective is to provide real-time communication channels that will provide parents, bus drivers, and schools with prompt updates.
- Eliminating manual attendance monitoring and automating it for schools and drivers is our goal.
- Our purpose is to enhance safety through advanced features, such as real-time tracking and emergency alerts.
- Our mission is to monitor bus safety and maintenance, ensuring the well-being of students.

3. Market Analysis



- **Industry Overview:**

Safety and communication are given top attention by the school bus transportation business, which transports millions of students every day. To overcome these issues, smart school bus monitoring systems have become crucial. In accordance with industry laws, these systems provide real-time tracking, attendance management, communication tools, safety enhancements, efficiency improvements, and data analytics, assuring student safety while also improving overall transportation efficiency.

Market Analysis for Smart School Bus in Kathmandu Schools

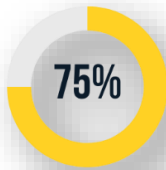
Market Overview

Total number of Schools:

- Rato Bangala School
- GEMS Institute of Higher Education
- DAV Sushil Kedia Vishwa Bharati
- Delhi Public School
- Alok Vidyashram
- Euro School
- Kendriya Vidyalaya
- 1500+ different schools

- **Target Market:**

- a. Educational Institutions (K-12 Schools):



The Smart School Bus Monitoring System's main target market is K–12 educational institutions. They need all-encompassing solutions to guarantee student safety while travelling, stick to regulations, and improve parent communication.

- b. Parents and Guardians:



Important stakeholders who want real-time information regarding their child's bus location, safety precautions, and any mishaps include parents and guardians. Through mobile apps and notifications, the system makes this information available, ensuring connection and peace of mind during the journey.

- **Market Trends:**

- a. Increasing Emphasis on Student Safety:

Student safety has become a paramount concern in school transportation. Recent incidents have driven schools, parents, and regulators to prioritize safety measures, including enhanced driver training, emergency preparedness, and real-time monitoring. This heightened focus underscores the need for advanced technology solutions to mitigate risks and ensure continuous student safety.

- b. IoT and GPS Technology Adoption:

IoT and GPS technologies have transformed school transportation by enabling real-time tracking and data collection. IoT devices on buses provide precise location and operational data, empowering stakeholders with accurate information. This data-driven approach enhances operational

efficiency, safety, and communication, leading to a more responsive and streamlined transportation system.

c. Demand for Real-Time Communication:

The demand for real-time communication tools has surged, driven by parents' and schools' expectations of instant updates on bus status. Mobile apps, notifications, and two-way messaging systems now facilitate seamless interaction between parents, schools, and bus operators. These tools play a vital role in improving transparency, accountability, and the overall quality of school transportation services.

- **Marketing Table:**

PROMOTION

- ✚ Online Marketing
- ✚ Influencer
- ✚ Direct Marketing

PRODUCT

- ✚ Quality
- ✚ Features
- ✚ Warranties

PRICE

- ✚ Discounts
- ✚ Allowance
- ✚ Payments Term

4. Customer Analysis

- Customer Segments:

Schools are seeking safer transportation

Primary clients are educational institutions like schools and kindergartens. They are looking for all-encompassing solutions to improve the security and safety of students while being transported to and from school. Systems that comply with safety requirements, enhance parent communication, and streamline administrative procedures relating to transportation are necessary for schools.

Parents and guardians concerned about their children's safety

Parents and guardians are an important customer group. The wellbeing and safety of their children while travelling to and from school is their top priority. They look for assurance through attendance monitoring to ensure safe boarding and boarding, real-time tracking and notifications of their child's bus whereabouts, and secure contact channels to stay updated about any problems or delays.

- Customer Needs:

Real-time bus tracking and notifications

The need for real-time bus tracking impacts both parents and schools. It improves safety by lowering uncertainties and delays by providing exact location information, predicted arrival times, and real-time updates. While schools gain from improved logistics and compliance, parents may conveniently watch their child's transportation, providing piece of mind.

Attendance monitoring

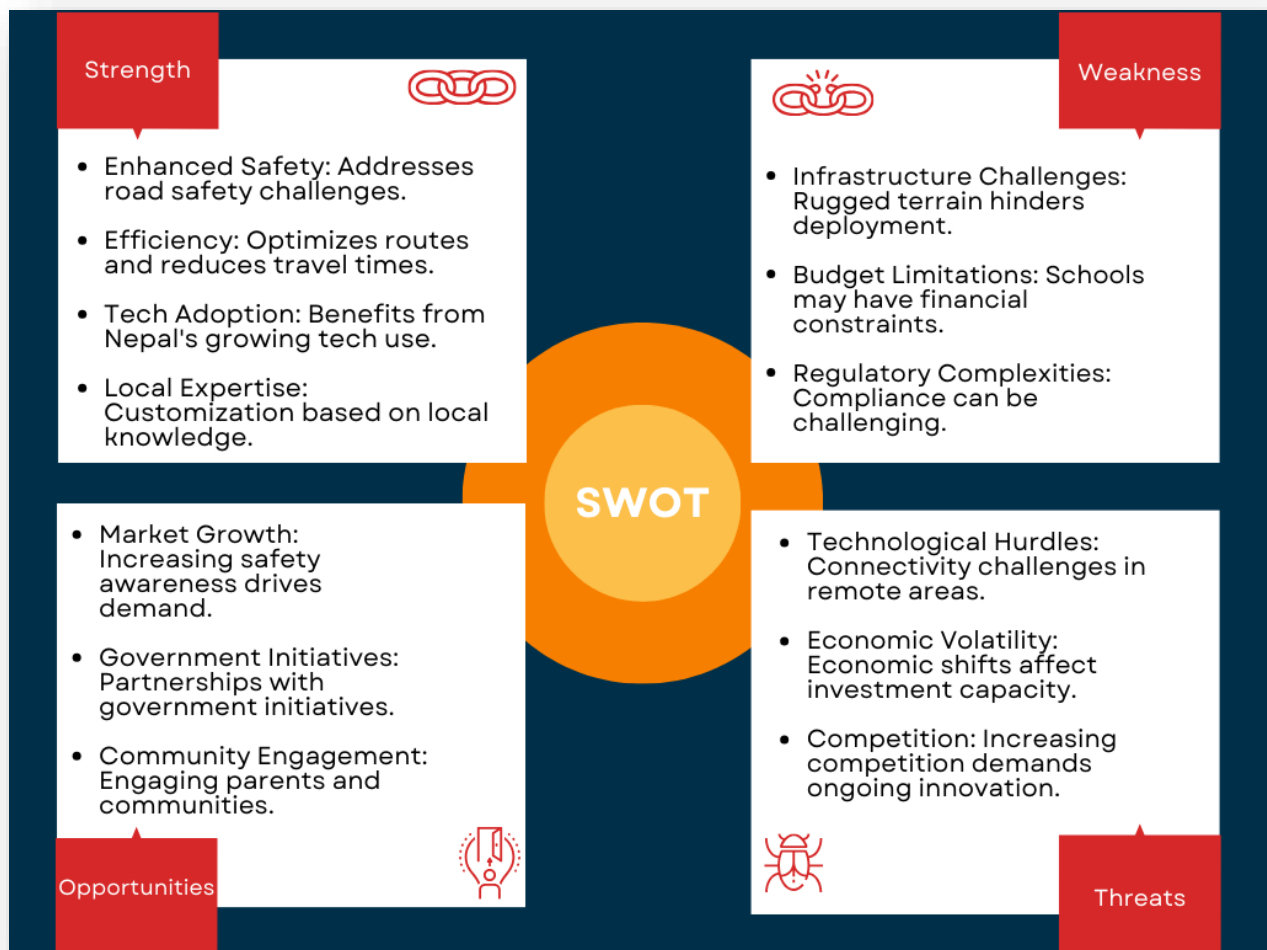
Monitoring attendance is an important priority in educational institutions. By ensuring that every child is present throughout transportation, automating this procedure enhances student safety. Additionally, it simplifies administrative work, minimizing errors and failures. Parents value the peace of mind that comes from knowing that the arrival and departure of their children are precisely tracked.

Secure communication channels

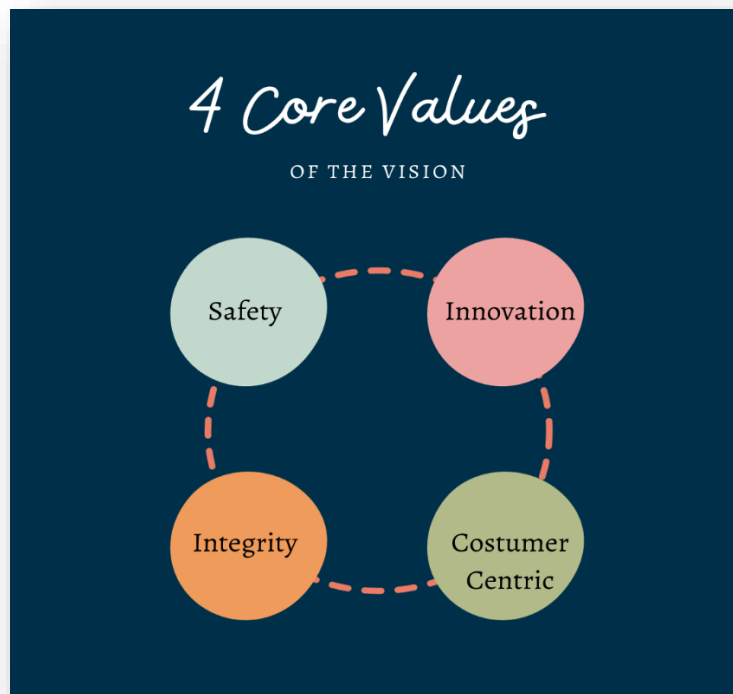
Easy-to-use mobile apps and notifications enable efficient, secure communication while serving the needs of parents, bus drivers, and schools. These channels make it possible to address issues, share urgent updates, and respond to situations quickly. Parents can speak with operators or authorities directly, promoting a cooperative environment that puts student safety and wellbeing first. Schools utilize them to inform parents of schedule changes, delays, or unplanned occurrences.

5. SWOT Analysis

We evaluate the system's positive and negative aspects, opportunities, and risks while taking Nepal's educational and geographic setting into account.



6. Core Values



- **Safety:** The safety of the students is our first priority. We accomplish this by employing ongoing strategies including active risk reduction, real-time monitoring, and data-driven insights. We place a high priority on students' safety by establishing a cooperative safety culture throughout their transportation experience.
- **Innovation:** Our primary value of innovation motivates us to employ cutting-edge technologies to improve the safety and communication capabilities of our system. We develop important partnerships with tech leaders to ensure that our system remains at the forefront of student mobility. We place a priority on ongoing enhancement, customization, user-friendliness, and future-readiness.

- **Integrity:** Integrity is an essential component of the key values of our Smart School Bus Monitoring System. We are dedicated to following the strongest moral principles, guaranteeing integrity, and upholding honesty in all aspects of our business. Our contacts with educational institutions, bus drivers, parents, and students are all governed by this solid dedication. It serves as a foundation of our system's legitimacy, dependability, and trustworthiness by giving all stakeholders access to a safe and open environment.
- **Customer-Centric:** We are dedicated to focusing the needs and preferences of our customers in order to meet and surpass their expectations. Our primary goal is to personalize our Smart School Bus Monitoring System to offer solutions that are tailored to each user's needs. This ensures that educational institutions, bus drivers, parents, and children all have a seamless and user-friendly experience.

8. Operations

- Objectives and Milestones

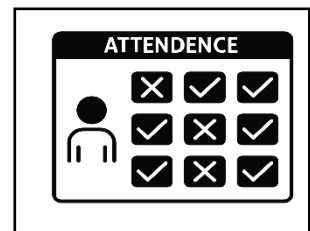
1) System Setup and Initialization Testing



2) User Authentication and Access Control Testing



3) Student Attendance Tracking via RFID



4) Real-time Tracking and Monitoring



5) Notifications and Alerts Testing



6) Reporting and Data Analysis Testing



7) Scalability and Performance Testing



8) Security and Data Privacy Testing



9) Integration



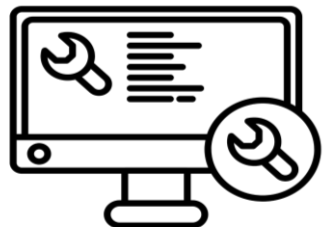
10) User Training and Documentation



11) User Acceptance Testing (UAT)



12) Real-time Tracking and Monitoring



- Development Timeline:



7. Finances

- **Finance**

Creating a financial plan for your college project, the Smart School Bus Monitoring System, involves estimating expenses, revenue projections, and preparing a balance sheet and cash flow statement for a year. Here's a simplified example:

Financial Plan for Smart School Bus Monitoring System (Amounts in Pound)

Direct Costs:

Expense Description	Amount (Pound)
Research & Development	30
Hardware & Sensors	120
Software Development	91.02
Hosting	30
Marketing & Promotion	151.69
Employee Salaries	910.16
Total Direct Costs	1333.87

Overheads:

Expense Description	Amount (Pound)
Office Rent	72.81
Utilities	15.17
Office Supplies	15.17
Miscellaneous Expenses	18.20
Total Overheads	121.35

Total Expenses:

Total Expenses = Direct Costs + Overheads

Total Expenses = 1333.87 + 121.35

Total Expenses = 1455.22

Revenue Projections:

In the first year, we charge schools on a per-bus basis, and we currently have 50 schools as our customers. On average, each of these schools operates approximately 5 buses.

Item	Amount (Pound)
Annual Revenue per School	728.13
Number of Schools	50
Total Revenue	36,406.5

Balance Sheet (Year-End):

Assets	Amount (Pound)	Liabilities and Equity	Amount (Pound)
Cash and Cash Equivalents	20,000	Loans Payable	0
Accounts Receivable	0	Accounts Payable	0
Inventory	0	Equity	20,000
Total Assets	20,000	Total Liabilities & Equity	20,000

Cash Flow Statement (Year-End):

Item	Amount (Pound)
Net Income	20,000
Changes in Working Capital	0
Operating Cash Flow	18,000
Capital Expenditures	8,000
Loan Payments	0
Investment Activities	0
Free Cash Flow	15,500
Beginning Cash Balance	4,500
Ending Cash Balance (Year-End)	20,000

Tax and VAT Table (Amount in Pound):

Tax/VAT Description	Rate	Amount (Pound)
Income Tax	25% of 20,000	5000
Value Added Tax (VAT)	13% of 36,406.5	4721.845
Total Tax	-	9721.845

Disclaimer:

Based on the information given, the above-mentioned cash flow statement is an approximation. It should be remembered that after the firm starts producing and operating, the real cash flow statement may change. The final amounts may change due to variables including market circumstances, price swings, and unexpected expenses. A professional accountant or financial adviser should be consulted to obtain accurate and current cash flow statements.

9. Conclusion

The Guardian Wheel Smart School Bus Monitoring System, which includes real-time tracking, attendance management, communication capabilities, and safety advancements, provides a complete approach to enhancing school transportation's efficiency and safety. Our market study takes into account the growing importance placed on student safety, the use of IoT and GPS technology, and the need for real-time communication. We prioritize innovation, integrity, and customer-centricity with a goal of improving school bus transportation globally, and our financial planning assures wise budget allocation. We are devoted to protecting children, streamlining operations, and empowering educational institutions, parents, and guardians through our cutting-edge and secure transport system. This commitment is supported by a committed team and a well-defined development timeline.