**Project Charter**: **Innovative drone delivery system for groceries.**



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**Project Charter**: **Innovative drone delivery system for groceries**

***Project Details***

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| Project Team | * Vishva Balar * Darshan Pandya * Sambhav Prajapati * Aryankumar Patel * Kunjkumar Patel * Mohammad Mahdi Mohaghegh * Smitkumar Patel |
| Project Description | Developing an efficient and innovative drone delivery system for groceries. Insta cart, also known as a top Canadian grocery delivery company based in Toronto, Ontario, is looking to enhance customer service by using drones for delivery of their products. They have partnered with a small company in London, Ontario called "DroneDeliver" to do this. |
| Project Purpose | Developing an efficient and innovative drone delivery system for groceries. Insta cart, also known as a top Canadian grocery delivery company based in Toronto, Ontario, is looking to enhance customer service by using drones for delivery of their products. They have partnered with a small company in London, Ontario called "DroneDeliver" to do this. |
| Project Strategy | * To make sure that everyone has understand the purpose of the project and their task. * To be in touch with every team member, to check if they have any problem. * To conduct meetings after specific time to discuss the status of the project. * To test the applications regularly to find errors. * Give date to each member to finish their task so that everything can be done in time. |
| Project Background | * Instacart is a popular online grocery delivery service that allows customers to order groceries from local stores and have them delivered to their doorstep. The company is growing rapidly and is constantly looking for ways to improve its services and stay ahead of its competitors. * The creation of drone delivery systems has been suggested as a potential remedy in this regard. The delivery of goods, including groceries, may soon undergo a revolution thanks to recent advancements in drone technology. * The drone delivery technology used by Instacart works by incorporating drones into the business's current delivery infrastructure. Customers may still order goods through his Instacart app as usual, but now drones will transport the packages to their destinations instead of people. |
| scope of the project | This are the following steps can be taken in order to complete the project.   * Designing the drone: This part includes the first part where we going to work on creating the hardware along with payload delivery mechanism, and all the cameras and sensors required for that to work properly. * Developing the software: In this step we are going to work on developing software that is eligible to manage controls of the drone along with navigation and flight control features. * Integrating with the grocery store's systems: This is a one major step where we are going to work on connecting the drone system with system of the grocery chain so we can be able to manage and deliver the orders effectively. * Testing and deployment: This would involve testing the drone delivery system to ensure that it works as expected and deploying it in a real-world environment. |
| Objective | •To design and implement a drone delivery system for groceries.  •To reduce delivery times and increase convenience for customers.  •To improve the customer experience by offering a unique and innovative solution for grocery delivery. |
| Benefits | The project is expected to have the following benefits:  • Enhanced customer service through the use of drones for faster and more convenient delivery  • Increased customer satisfaction and loyalty through the implementation of an online ordering system and customer feedback portal  • Increased security in the handling of customer information and orders  • Improved sales reporting and tracking through the integration of sales information into the online ordering system  • Increased efficiency and cost savings through the use of drones for delivery  • Increased accessibility for customers who may have difficulty accessing traditional grocery stores  • Better positioning for Instacart in the rapidly growing online grocery delivery market. |
| Timeline | The project will take approximately 12-18 months to complete, including design, development, testing, and implementation. |
| Constraints | The constraints for the Project are:  • Availability of advanced drone technology: The project requires cutting-edge drone technology, which may not be readily available or may take time to integrate into the delivery system.  • Government regulations: Drones are subject to strict regulations by aviation authorities, and the project may face challenges in obtaining necessary approvals and licenses for drone operations.  • Weather conditions: Drones can be affected by adverse weather conditions, which may impact the reliability and safety of deliveries.  • Infrastructure: The project requires the installation of charging and maintenance facilities for drones, which may be challenging in densely populated areas.  • Cost: The cost of acquiring and maintaining the drones, as well as the development of the online ordering system, may be significant and affect the project budget. |
| Outcomes | The major outcome of this project would be a functional drone delivery system that can be used in order to deliver items to customers from the particular store and this comes with convenience and improving delivery times. Being successful in this project also influence other industries for wider use of drone delivery in other industries, leading to further innovation and development in the field. |

Responsibility and Authority

1. Staffing – Staffing is totally dependent on the expertise of the individual because this is a project regarding the AI based machine. So, we need team of all members who are good enough with the knowledge of the AI based implementation. Also, whole team can be managed by our project manager only.

2. Budget – As we have our project that depends on the how many drones we are launching and level of implementing the software requirements. But from our point of view, just for one drone we probably need $ 1000 and additional charges for software development according to requirements.

3. Communications – All the communication and the status of the project will be made by our project manager biweekly to get updated status of ongoing project by in person meeting.

4. Planning/Tracking - We will use our own project management software to keep track of this project. Beginning with the second report, an analysis of earned value will be included in every other status report.

5. Change Control – All the changes are allowed to do by the project manager only. And he needs to keep out budget in mind when he is thinking to do any changes.

6. Document/System Access – All the staff members are allowed to ask for the status and other information regarding project but under the eye of project manager.

***Signature for Approval: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***