**MGS 614 Group Project Azure DevOps Summary**

**Assignment: Group Project Azure DevOps Summary**

**Our Team:**

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| **Prashant Anand** | Prashant Anand is a graduate student in Management Information Systems at the University at Buffalo. Previously, Prashant worked as an analyst at various companies where he improved database frameworks, analyzed data with SQL and Excel, and developed strategies that optimized business operations. |
| **Alankrita Singh** | Before coming to the United States, Alankrita worked as an Application Engineer in India for the past 2 years. She intends to change her career path to data analytics and security as these topics interest her. She completed her BTech in Electrical & Electronics Engineering in 2022 and is now pursuing an MS in MIS to transition into the career track she has chosen. She is passionate about learning new things, adaptable and driven to excel. |
| **Prateek Madnani** | Prateek comes from India with a professional background in Software Engineering. Prateek completed his undergraduate degree in Information Science and Engineering in 2020 and has been working in the software domain since then. Prateek is currently pursuing his Master of Science in Management Information Systems at the University at Buffalo. Prateek is passionate about technology, is an avid learner and explorer. |

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| **Project Plan** | |  |
| Assignment Name | Group Project Azure DevOps Summary |  |
| Assignment  Objective 1 | For your group project you will develop a plan to build an application of your choice. The goal of this project is to develop an Azure DevOps project that would allow a technical team to build your application. It will include user stories, and requirements with acceptance criteria, plans for different technical groups to work on the different aspects of the plan, and three sprints.  Remember the goal of this project is not to build the application, it is to build the plan that could, if you had a million dollars and a large technical team, be used to facilitate the building of your project. |  |

### **Project Summary: Driver Booking Application**

#### **Summary:**

The goal is to develop an application that enables users to book drivers or chauffeurs at multiple geographical locations across the United States. Users can book a driver at a specified rate who will drive the user's car to a desired location. After completing the trip, the driver can either return to their original location or accept a new booking.

#### **1. What is the issue the project will address?**

This project addresses the inconvenience of finding reliable drivers who can drive users' cars to their desired locations. Users often need a chauffeur service without requiring a cab, especially for personal cars. The application provides a platform where users can book drivers at multiple geographical locations across the United States, making it easier to find, book, and manage drivers.

#### **2. Why do you want to do the project?**

The motivation behind this project is to fill a gap in the market for a specialized service that allows users to book drivers to drive their cars. This service is beneficial for users who need a driver for various reasons such as long trips, medical appointments, events, or simply when they prefer not to drive. Providing a reliable and convenient solution can enhance user experience and meet a significant demand in the market.

#### **3. Are there any similar projects out there? How have other people addressed similar projects?**

There are some similar services like Uber and Lyft, which focus on providing rides with drivers in their own vehicles. However, these services do not cater specifically to users who need a driver to operate their personal vehicles. Some chauffeur services exist, but they often lack a comprehensive, scalable, and user-friendly application for easy booking and management. This project aims to offer a more tailored and accessible solution.

#### **4. What are the main challenges, the hardest technical part of your project?**

The main challenges of the project include:

* **Scalability:** Ensuring the application can handle a large number of users and drivers across the entire United States.
* **Real-time Tracking:** Implementing accurate and efficient real-time GPS tracking for drivers.
* **Secure Payment Integration:** Integrating a secure and reliable payment system that can handle various payment methods.
* **Driver Verification:** Ensuring that all drivers are verified and meet safety and quality standards.
* **User Experience:** Designing an intuitive and seamless user interface for both users and drivers.

#### **5. If you had access to content experts, how would you gather the user stories and requirements for your project?**

To gather user stories and requirements, we would:

* **Conduct Surveys:** Distribute surveys to potential users and drivers to understand their needs and preferences.
* **Interviews:** Conduct detailed interviews with users who frequently need driver services and professional drivers to gain deeper insights.
* **Focus Groups:** Organize focus group discussions with diverse user groups to gather comprehensive feedback.
* **Consult Industry Experts:** Engage with experts in the transportation and chauffeur service industries to understand best practices and common pitfalls.
* **Prototype Testing:** Develop and test prototypes with a small user base to gather feedback and refine requirements.

#### **6. What technical teams do you feel you need to complete the project?**

Given the complexity and scale of the project, the following technical teams are required:

* **Project Manager:** Oversees the project, manages timelines, and coordinates between teams.
* **Backend Development Team (10):** Responsible for server-side logic, database management, API development, and integration of geolocation services.
* **Frontend Development Team (8):** Focuses on UI/UX design, implementation, and ensuring a responsive and user-friendly interface.
* **QA Team (5):** Conducts testing to ensure the quality and reliability of the application across various devices and conditions.
* **DevOps Team (5):** Manages deployment, scalability, cloud infrastructure, and continuous integration/continuous deployment (CI/CD) pipelines.
* **UX/UI Designers (4):** Design the user interface and user experience, ensuring it is intuitive and meets user needs.
* **Business Analysts (2):** Gather and manage requirements, conduct market research, and ensure alignment with business goals.
* **Security Experts (2):** Ensure data security, handle secure payment integration, and manage user data protection.
* **Content Experts:** Assist in gathering user stories, conducting surveys, and providing insights into user needs and industry standards.

#### **Key Features:**

1. **User Registration and Authentication:**
   * Secure user sign-up and login.
   * Profile management for users and drivers.
2. **Driver Booking:**
   * Search and book drivers based on geographical location.
   * Set rates for different drivers.
   * Scheduling and real-time booking.
   * Option to provide special instructions or preferences.
3. **Driver Management:**
   * Driver registration and profile management.
   * Availability scheduling for drivers.
   * Real-time status updates and notifications.
4. **Trip Management:**
   * Real-time tracking of trips.
   * Trip history and detailed trip reports.
   * Option to rate and review drivers.
5. **Payment Integration:**
   * Secure payment gateway integration.
   * Automated billing and invoicing.
   * Multiple payment options (credit/debit cards, digital wallets).
6. **Geolocation Services:**
   * Real-time GPS tracking of drivers.
   * Route optimization for efficient travel.
7. **Admin Dashboard:**
   * Manage users and drivers.
   * Monitor trips and handle disputes.
   * Generate reports and analytics.

#### **Development Plan:**

**Sprint 1: Foundation and Core Features (Weeks 1-2)**

* **Week 1:**
  + Set up project repository and environment.
  + Design and implement user and driver authentication.
  + Develop user and driver profile management features.
* **Week 2:**
  + Integrate basic geolocation services.
  + Implement driver search and booking functionality.

**Sprint 2: Enhanced Functionality and User Experience (Weeks 3-4)**

* **Week 1:**
  + Develop trip management system.
  + Set up real-time trip tracking.
  + Integrate secure payment gateway.
* **Week 2:**
  + Implement automated billing and invoicing.
  + Develop driver availability scheduling.
  + Enhance UI/UX for booking and trip management.

**Sprint 3: Scalability and Deployment (Weeks 5-6)**

* **Week 1:**
  + Implement driver rating and review system.
  + Develop notification system for real-time updates.
  + Optimize backend for scalability.
* **Week 2:**
  + Conduct extensive testing and bug fixes.
  + Implement admin dashboard features.
  + Deploy application on cloud infrastructure and prepare for nationwide launch.

#### **Technology Stack:**

* **Frontend:** React, HTML, CSS
* **Backend:** Node.js, Express
* **Database:** MongoDB
* **Geolocation:** Google Maps API
* **Payment Gateway:** Stripe/PayPal
* **Hosting:** AWS/GCP/Azure

#### **Team Structure:**

With no limit on the number of developers, we can allocate specialized teams for rapid development and integration.

* **Project Manager:** Oversees project timeline and coordination.
* **Backend Development Team (10):** Handle server-side logic, database management, and API development.
* **Frontend Development Team (8):** Focus on UI/UX design and implementation.
* **QA Team (5):** Responsible for testing and ensuring the quality of the application.
* **DevOps Team (5):** Manages deployment, scalability, and cloud infrastructure.
* **UX/UI Designers (4):** Create and refine user interface and experience designs.
* **Business Analysts (2):** Gather and manage requirements, ensuring alignment with business goals.

#### **Conclusion:**

This project aims to deliver a robust and scalable driver booking application within three sprints, ensuring comprehensive coverage across all states in the US. With no financial constraints and enough developers, the focus will be on delivering a high-quality user experience, secure transactions, and real-time geolocation services, ensuring timely delivery and scalability.