Secure Software Development (CMP020X306) Generated Case Study

Company name

Pitrix

Company profile

Pitrix: A leading developer and manufacturer of advanced vehicle tracking and navigation systems for professional motor racing teams.

Product

Pitrix NavTrack

Users

Pitrix NavTrack: Designed for professional motor racing teams, **Pitrix NavTrack** is used by drivers, navigators, and team managers to optimize vehicle performance, reduce lap times, and enhance overall racing experience. The software provides real-time navigation data, vehicle telemetry, and analytics, allowing users to make informed decisions during the race. By utilizing **Pitrix NavTrack**, teams can gain a competitive edge and improve their chances of winning.

System architecture

The system architecture of **Pitrix NavTrack** consists of three main components:

- **Data Center**: The central hub that collects, processes, and stores data from various sources, including vehicle tracking devices, sensors, and weather stations.
- **Vehicle Tracking Devices**: Small, lightweight units installed on the racing vehicles to collect real-time telemetry data, such as speed, acceleration, and location.
- **Mobile App**: A user-friendly application for drivers, navigators, and team managers to access and visualize navigation data, vehicle performance metrics, and analytics in real-time.

Network connectivity is established through cellular networks (4G/5G) or satellite communication systems to ensure seamless data transmission between the components. This architecture enables efficient data exchange, accurate navigation, and timely decision-making during racing events.

Data

Pitrix NavTrack stores various types of data, including:

- **Vehicle Performance Data**: Telemetry metrics such as speed, acceleration, braking force, and engine RPM
- **Navigation Data**: Real-time location, route information, and turn-by-turn directions
- **Weather Data**: Temperature, humidity, wind speed, and other environmental conditions
- **Driver Feedback**: Driver input on vehicle handling, comfort, and overall experience

Personal data stored includes:

- Driver names and contact information (for incident reports or emergency situations)
- Team member details (e.g., team manager, navigator) for communication and coordination purposes

Note that all personal data is handled in accordance with relevant privacy regulations and data protection laws. Access to this information is restricted to authorized personnel only, ensuring confidentiality and security.

Cyber risk appetite

Pitrix: The company has a **high** cyber security risk appetite. This means that they are willing to take calculated risks and accept potential threats in pursuit of innovation and competitive advantage. While this approach may increase the likelihood of security breaches, it also allows for faster development and deployment of new technologies, enabling the company to stay ahead in the market.

Employee awareness of cyber security

Pitrix: The employees have **low** awareness of cyber security. This is due to several factors:

- Limited training programs: The company has not invested sufficient resources in employee training and education on cyber security best practices.
- Lack of engagement: Employees are not actively involved in the development and implementation of cyber security policies, which may lead to a disconnect between them and their roles in maintaining security.
- High turnover rate: The company experiences a high rate of employee turnover, making it challenging to maintain a consistent level of knowledge and awareness among staff members.

As a result, employees may not fully understand the importance of cyber security or how to identify potential threats, increasing the likelihood of security breaches.