

Peer Review - Smart Campus Parking System

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Internet of Things [CS-451]

Course Assignment



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April 2025

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2.1 Ashish Upre

Ashish was highly helpful in this project, contributing immensely despite having a six-month internship on his back. His dedication and ability to balance multiple responsibilities without compromising on quality were truly commendable. He consistently executed his work flawlessly, taking full ownership of his responsibilities and ensuring that everything was completed to the highest standards.

2.1.1 Technical Work

Ashish played a crucial role in circuit development and designing ensuring that the system architecture was robust and well-optimized for real-time scenarios. His approach to coding was phenomenal, as he not only wrote the necessary code but also ensured that it met real-time operational constraints, making the system both efficient and reliable.

His ability to critically evaluate different configurations and select the most suitable one played a pivotal role in optimizing the project's hardware. One of his key contributions was during the transition from Arduino Uno to ESP32, where he demonstrated great adaptability.

He successfully rewrote and optimized the firmware, leveraging ESP32's capabilities to ensure faster processing, better multitasking. His implementation made it possible to handle multiple sensor inputs simultaneously, improving the overall system efficiency.

Furthermore, Ashish developed the code for the LED display alongside the sensors, ensuring that real-time data could be visually represented. This not only enhanced the system's usability but also made troubleshooting and monitoring significantly easier by providing immediate visual feedback on system status. The LED indicators proved highly beneficial in alerting users to critical system states, making the setup more intuitive and user-friendly.

Apart from that, Ashish integrated power management techniques within the circuit design to ensure optimal energy efficiency. By analyzing different power configurations and implementing in ESP32, he helped in significantly reducing energy consumption, which is essential for long-term deployments.

His proactive approach had improved the chances of overall system reliability. Lastly, Ashish played a key role in documenting our entire technical journey.

2.1.2 Non-Technical Work

Ashish was not only technically sound but also a proactive team player. He consistently took the initiative in his tasks, ensuring that everything was well-coordinated and aligned with the broader project goals. Even when faced with complex challenges during the transition from Arduino to ESP32, he remained patient and methodical, guiding the team through the necessary modifications and ensuring a smooth shift without disruptions.

His ability to research and present different circuit configurations provided valuable insights to the team, allowing us to make informed decisions. This contributed significantly to the innovation and usability of our system, ensuring that it was both user-friendly and technically superior.

2.2.3 Strengths

Ashish's contributions were instrumental in the success of our project. His strengths include:

- Exceptional circuit design expertise, ensuring an optimized and efficient circuit layout.
- Phenomenal coding skills, particularly in writing real-time firmware for this project.
- Deep research and analytical skills, demonstrated through his study of various circuit configurations.
- Commitment to innovation, ensuring that the design and implementation were both user-friendly and technically advanced.
- Strong sense of initiative and responsibility, ensuring his work was always completed to perfection.

2.2 Harshit Gupta

Harshit was responsible for web development within our team. His ability to adapt to project requirements and implement solutions efficiently played a key role in ensuring the timely completion of our project.

2.2.1 Technical Work

Harshit developed a user-friendly dashboard interface for our project, which serves as a crucial differentiating factor. The dashboard includes a login feature to ensure that only authorized users can access it, balancing ease of use with necessary security measures.

In addition to the dashboard, he worked on visualizing available slots, presenting raw sensor data in a structured and readable format. This feature enhances usability by providing clear insights to users, making our system more practical compared to existing solutions.

Harshit also implemented an alert system that notifies users about available slots. This real-time feature aligns with the project's objectives, helping users make informed decisions about parking availability.

To support the project's evolving needs, he took the initiative to integrate Firebase as the real-time database. This decision significantly improved the system's responsiveness, allowing for quick updates and accurate slot availability tracking. The ability to handle concurrent requests and asynchronous operations ensured that other team members could work independently without delays.

2.2.2 Non-Technical Work

Beyond technical contributions, Harshit's ability to adapt to requirements and coordinate effectively helped streamline the development process. His efforts in documentation ensured that the team's work was well recorded and easily understood by others.

2.2.3 Strengths

Some of the key strengths Harshit demonstrated throughout the project include:

- Strong web development skills, contributing to both functionality and usability.
- Ability to adapt quickly to changing project requirements and implement solutions accordingly.
- Effective management of asynchronous workflows, enabling efficient team collaboration.
- Proficiency in integrating databases into web applications, ensuring smooth data handling and real-time updates.

His contributions were essential to the project's progress, both in terms of technical implementation and overall workflow efficiency.