1. Parking at Cal Poly Pomona (CPP) has long been a challenge. Driving through multiple lots without any guarantee of finding a spot is both mentally exhausting and inefficient. To address this issue, **we propose a system that enables students and faculty to check parking availability in real time.**

Our solution consists of two subsystems: View and Report.

View: Users can access a web application that displays each campus parking lot and its current capacity. This allows them to quickly assess parking conditions before arriving on campus.

Report: Users can contribute information about parking availability by reporting open or full lots, which will improve the accuracy and reliability of the system.

By providing easier access to information, this system reduces inefficiency and enhances the daily commuting experience. Moreover, the collection of tangible parking data can inform long-term strategies for addressing structural parking challenges at CPP.

2. Stakeholders

Internal Operational: Commuting Students, Commuting Staff/faculty, Campus Police/Security, Campus Transportation

Internal Executive: University Administration, IT/Student Accounting Services, Facilities Management Leadership

External Operational: Event Organizers (Book Event Services), Technology Vendors (JAPA App), Visitors

External Executive: City of Pomona/County Transportation Authorities, Regulatory Bodies

3. Potential Actors: Guests (users who can view availability but not post), Registered users, moderators, operators, and system integration

4.

| **Use Cases** | **Brief Use Case Description** | **Actors** |
| --- | --- | --- |
| Create Profile | Registered user create a new account. The system verifies the information and grants access to features such as submitting reports and managing parking sessions. | Registered User, system Integration |
| View lot availability | Guests and users view real-time parking availability in list or map form. The system shows the lot status with timestamps, so users can quickly decide where to park. See estimated parking capacity (75% full), parking lot status (full, closed, open), and number of users | guests(read-only role), registered user, moderator |
| crowd report | The system records and updates the report, changes the lot status, and displays updated information to all users. | Registered users, moderator |
| Edit profile | Users can edit their profiles and potentially input their class locations. Based on this, they are able to determine which spot is best for them in terms of time and availability. | Registered users, Moderator |
| Send Notifications | The system will alert users when a lot is full and guide them to the nearest (or user preference-based) parking lot. | System, Moderator, Registered user |
| Moderate Reports | Mods review user-submitted reports to ensure accuracy and remove spam or false data. | Moderator |
| Manage Lots | Mods update lot information such as capacity and mark lots as closed for events or maintenance. | Moderator |

5. Use Case Diagram

