# Context Objects and Requirements Sources

TT2L – Campus Ride-Sharing Platform with Parking System Integration

## Context Objects:

Context objects are the systems, environments, and entities that interact with or are affected by the ride-sharing platform.

|  |  |
| --- | --- |
| Type | Context Object |
| Material | Students, Faculty, Staff, Admin, Mobile Device |
| Immaterial | Parking Management System, Digital ID System, University Policies, University Network Infrastructure, Campus Email System |

### Three Type Facet:

* Subject Facet:
  + System context objects about which information is represented in the system.
* Usage Facet:
  + System context objects (people and/or systems) which directly or indirectly interact with the system.
* IT System Facet:
  + System context objects of the technical and operational environment in which the system is going to be deployed.
  + (External software systems or IT infrastructure that your system directly communicates with or depends on for its operation.)

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| --- | --- | --- |
| Subject Facet | Usage Facet | IT System Facet |
| * Student * Faculty * Staff * Admin * University Policies | * Student User Group * Faculty User Group * Staff User Group * Admin User Group * Mobile Device * Parking Management System * Campus Email System * University Network Infrastructure | * Parking Management System * University Digital ID System * Campus Email System * University Network Infrastructure |

### Properties of System Context Objects:

Subject Facet:

|  |  |
| --- | --- |
| Student | * ID * Name * Matriculation status (undergraduate) |
| Faculty | * ID * Department * Carpool eligibility |
| Staff | * ID * Work unit * Role (Teacher, Cleaning Staff) |
| Admin | * ID * Role (System Admin) |
| University Policies | * Parking rules * Ride Eligibility Guidelines |

Usage Facet:

|  |  |
| --- | --- |
| Student User Group | * Manage rides * Create rides * Join rides * Book parking * Sets ride preferences * View parking status * Review drivers |
| Faculty User Group | * Manage rides * Create rides * Join rides * Book parking * Sets ride preferences * View parking status * Review drivers |
| Staff User Group | * Manage rides * Create rides * Join rides * Book parking * Sets ride preferences * View parking status * Review drivers |
| Admin User Group | * Manage users * Manage certain system functions * Handle backend setup * Monitor parking data * Approve ride and parking data * Access admin dashboard |
| Mobile Device | * Location access * Push notifications * Interface for user interaction |
| Parking Management System | * User sees live parking status * Manage ride access * User interface |
| Campus Email System | * Send ride alerts to users * Notification logs |
| University Network Infrastructure | * Transmit data |

IT System Facet:

|  |  |
| --- | --- |
| Parking Management System | * API endpoint * Update real-time parking data * Data format |
| Digital ID System | * Active/inactive user validation * ID authentication |
| Campus Email System | * Email formatting templates * SMTP |
| University Network Infrastructure | * API routing * Bandwidth capacity |

## Sources of requirements:

|  |  |
| --- | --- |
| Sources | Contribution |
| Students | Define ride needs, UI expectations, timing preferences |
| Surveys | Expectations, usage habits |
| Existing Apps (Grab, Uber) | Basic features, app policies |
| University | Campus regulations, parking rules |