Software Requirements Specification

Garcon

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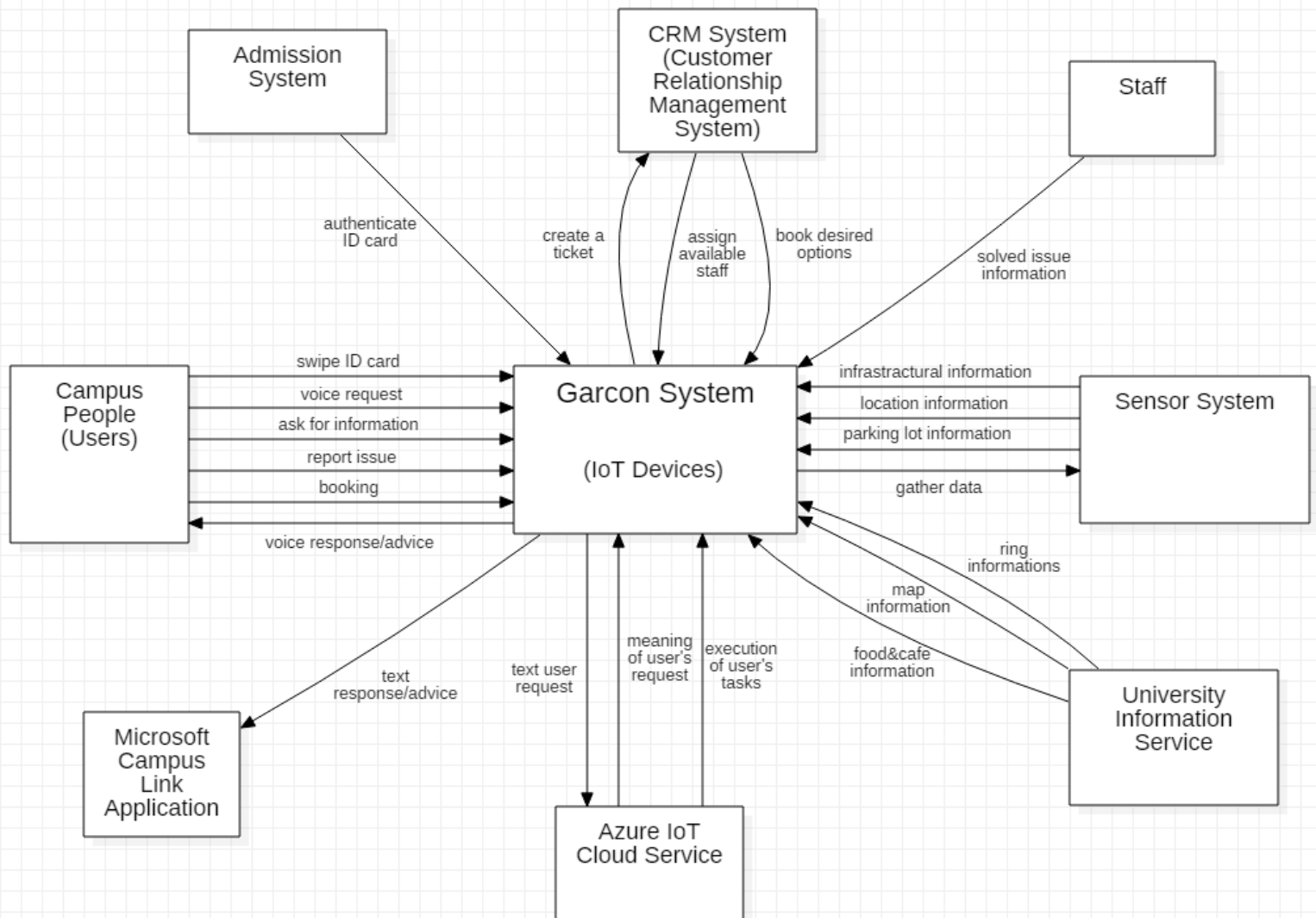## 1.3.1 System Perspective

Figure 1: Context Diagram

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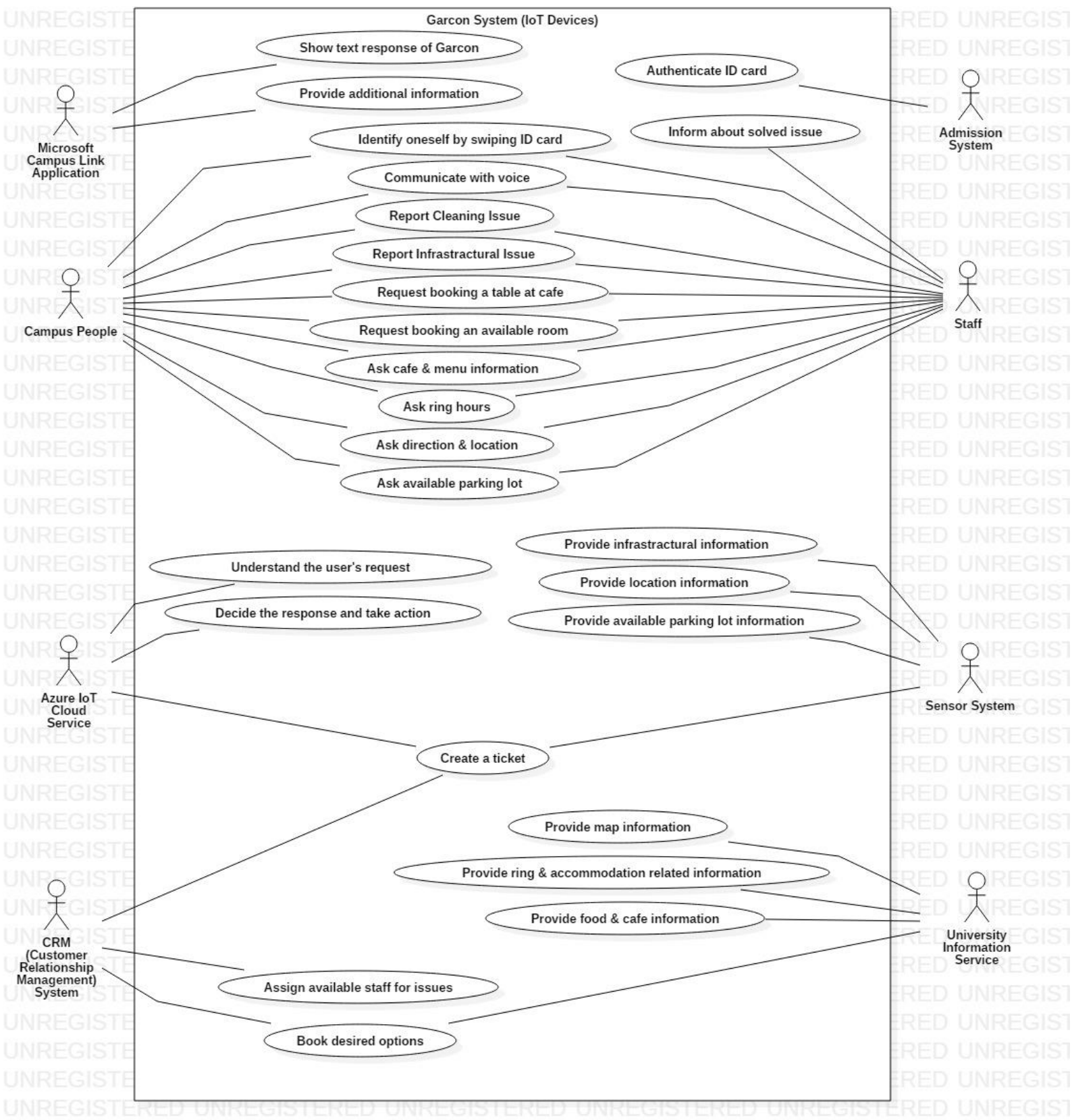## 3.1 External Interfaces

3.2 Functions

Figure 2: Use Case Diagram

Use case name	Create a ticket
Actors	CRM (Customer Relationship Management System), Azure IoT Cloud Service, Sensor System
Description	If any campus people (students, faculty members, guests with ID card etc.) or any staff reports any kind of issue, Garcon system collects appropriate and necessary informations for these desires and creates a ticket to achieve them.
Data	User voice, location information, infrastractural details of problem (temperature of room, lighting power of building etc.).
Preconditions	Sensor system must be ready to send necessary informations to create a ticket.
Stimulus	Garcon system is notified when voice is translated to text inside the IoT device.
Basic Flow	Step 1 – Garcon system is notified by voice-to-text translator inside the IoT device. Step 2 – Input text is sent to Azure IoT Cloud Service to meaning deduction. Step 3 – If the text is about reporting an issue, Azure IoT Cloud Service collects necessary data (location or technical details of the issue) from Sensor system related to interpreted input text. Step 4 – Azure IoT Cloud Service sends information of the task that will be executed (creating a ticket on this case) and related data to Garcon IoT device. Step 5 – Garcon IoT device creates a proper ticket related to issue and triggers an e-mail to CRM system about the ticket.
Alternative Flow #1	Step 3 – If the text is not about the reporting an issue, another task will be executed by Azure IoT Cloud Service.
Exception Flow	If any sensor hardware malfunctions during gathering data and can not perform its task, it will be recorded as an error.
Postconditions	CRM System can see the ticket and deal with it to solve the issue.

Table 1: Create a ticket function

Use case name	Book desired options
Actors	CRM (Customer Relationship Management System), University Information Service
Description	If any campus people (students, faculty members, guests with ID card etc.) or any staff requests booking for a table at cafe or a room at guesthouse, Garcon system searches available alternatives from the service and if possible books desired places in real-time.
Data	User voice, user ID card number, available places information for booking
Preconditions	User must request a booking by voice from the IoT device.
Stimulus	Garcon system is notified when Cloud service detects a request for booking from the user input.
Basic Flow	Step 1 – Garcon system is informed by Cloud service about booking request and desired options of user. Step 2 – IoT device gather available cafe or guesthouse options from University Information Service according to user's preferences. Step 3 – IoT device informs user with voice about available options. Step 4 – If the user chooses or approves clear option according to Garcon's respond, IoT device triggers an e-mail to CRM system about user's booking preference. Step 5 – Garcon informs user about the process and directs him/her to Microsoft Campus Link Application to track his/her booking status. Step 6 – CRM System books desired place for the user.
Alternative Flow	–
Exception Flow	Step 4 – If the user does not respond in limited time for approving or choosing clear option according to Garcon's respond, user's ID card authentication is terminated.
Postconditions	User can see his/her booking status from Microsoft Campus Link Application.

Table 2: Book desired options function

3.3 Usability Requirements

3.4 Performance Requirements

3.5 Logical Database Requirements

3.6 Design Constraints

3.7 Software System Attributes

3.8 Supporting Information