# Project proposal

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| --- | --- | --- | --- | --- |
| **Name of Candidates** | **A** | **B** | **C** | **D** |
| **PS Numbers** |  |  |  |  |
| **Name of Mentor – Delivery** | **Vijay** | | **PS No 998252** | |
| **Name of Mentor- GEA** | **YYYY** | | **PS No** | |
| **Project Period** | **From: November 2020 To: December 2020** | | | |
| **Date of Completion** |  | | | |

### **Project Title**

* Design of IoT Based Smart Parking System

### **Project DETAILS:**

* **aim**:
* Design of Smart parking system which automatically detects presence of cars and indicates the full/vacant status in real time
* This real-time status needs to be hosted in cloud and can be accessed in remote for advance booking of vacant slots and for real time monitoring
* **Problem statement:**
  + **Phase 1**
* Consult customer and obtain detailed requirements.
* Come up with concept to detect a parked car (no cameras allowed) and to differentiate car from passing humans. Also need to record the time of parking and duration which is required for billing the customer.
* Design the circuit on the paper after selecting relevant components like micro controller, etc
* Decide how the status shall be transmitted to a local hub which in turn will push the same to cloud.
* Design a mechanism to remotely view the consolidated status and to remotely book a vacant slot
  + **PHASE 2 (If time permits)**
* Integrate billing system at each parking slot
* Based on the duration of parking, amount shall be calculated
* QR code can be scanned to make the payment
* System shall verify the payment success and only then will allow customer to remove the car from the parking slot
* **Objectives & Learning outcomes of the project**
* Application of Basic electronics and circuit design
* Embedded firmware and algorithm designing
* Concept of IoT and cloud
* Wireless design concepts
* **Key Deliverables:**
* Requirements specifications
* Detailed design calculations and schematics
* Firmware design document, calculations, state diagrams, flow diagrams and pseudo code (or code in Python)
* Cloud high level architecture
* Detailed working of the entire system
* Design limitations identified
* **Hardware & Software Recommendations**
* HW - 2
* FW – 1
* SW - 1
* **Weekly Progress (gantt chart)**



### **REVIEW**

* Weekly reviews to be conducted over the entire tenure of Project
* Each review comprises of a progress presentation from the candidates
* Mentor may demand daily / Weekly deliverables
* behavioral Traits would be evaluated along with project deliverables

### **Final Review and Recommendation:**

* Rating and Score against each parameter

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| --- | --- | --- | --- | --- |
| **Sr.No** | **Parameter** | **Rating** | | **Score/5** |
| **1** | **Approach towards the problem** |  | |  |
| **2** | **Analytical Ability and Results discussion** |  | |  |
| **3** | **Independent Work +Team Work** |  | |  |
| **4** | **Presentation Skills** |  | |  |
| **5** | **Project Deliverables** |  | |  |
| **6** | **Quality of Project Thesis** |  | |  |
| **7** | **Communication Skills** |  | |  |
| **8** | **Attitude** |  | |  |
| **9** | **Confidence** |  | |  |
| **10** | **Innovation** |  | |  |
|  | **Total** |  | | **/50** |
|  |  |  |  | |

A= Exceeds Expectations B= Meets Expectations C=Does not meet expectations

**Recommendation:**

**Progression: Yes No**