

**Department of Networking and Communications**

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

|  |  |
| --- | --- |
| **Experiment No** | 4 |
| **Title of Experiment** | Prepare Project Plan based on scope, Calculate Project effort based on resources and Job roles and responsibilities |
| **Name of the candidate** | SOORAJ TOMAR |
| **Team Members** | HARSHIT SHARMA(RA2011030010206), PIYUSH BISHT(RA2011030010226) |
| **Register Number** | RA2011030010224 |
| **Date of Experiment** | 06-04-22 |

**Mark Split Up**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Description** | **Maximum Mark** | **Mark Obtained** |
| 1 | Exercise | 5 |  |
| 2 | Viva | 5 |  |
| **Total** | | **10** |  |

**Staff Signature with date**

**Aim**

To Prepare Project Plan based on scope, Calculate Project effort based on resources, Find Job roles and responsibilities

**Team Members:**

|  |  |  |  |
| --- | --- | --- | --- |
| **S No** | **Register No** | **Name** | **Role** |
| **1** | **RA2011030010224** | **SOORAJ TOMAR** | **Lead** |
| **2** | **RA2011030010206** | **HARSHIT SHARMA** | **Member** |
| **3** | **RA2011030010226** | **PIYUSH BISHT** | **Member** |

**Requirements**

**Project Management Plan**

|  |  |
| --- | --- |
| Focus Area | Details |
| Resource Management | **Estimate and manage the need:**   * We shall need proper database with consistent data for the software to work upon and give results * A proper server is required to handle the traffic on the software.   **People: People & Skills Required:**   * Not a lot of staff is required, only an admin, some maintenance staff, developers, coders and testers. * Skills required are some basic database management skills, good coding skills and good management skills.   **Finance: Budget Required:**   * This shall be discussed below. * The budget required is relatively low since this is not a novel project and is very basic.   **Physical: Facilities, IT Infrastructure:**   * Some basic computing equipment and adequate database as well as good servers. * Face (Biometric) Scanners * ID Card Scanners * Database * Servers |
| Stakeholder | **Identifying, Analyzing, Engaging Stakeholders:**   |  |  | | --- | --- | | Stakeholder Name | Activity/ Area /Phase | | Student (User) | Login  Check Attendance details  Check detained Subjects  Update Other Details | | Admin Staff | Login  Check Details for Attendance  Take action for detained students | | Developers | Create Software  Manage Software  Update Software | | Server Management | Manage Connections  Communication between Database and User | | Database Management | Manage Data Transmission and updation | | Teaching Staff (User) | Login  Check Attendance Details  Update Attendance Details  Update Other Details |   We shall engage our stakeholders in such a way that their valuable feedback can be integrated into the software to make it more user friendly and effective. This can be done by feedback forms, providing with feedback/customer complaint/customer suggestion emails etc. |
| Risk Management | **Identifying, analyzing, and prioritizing project risks:**  Time is not estimated perfectly, we can fall short of time in development of our software. (Priority- Medium)  Improper resource allocation, like servers, database entries etc. (Priority- High)  The skill of staff can be an issue, but can be resolved by proper training. (Priority- Medium)  Frequent project scope expansion. (Priority- Low)  Wrong/Improper budget estimation. (Priority- High) |

**Estimation**

Effort and Cost Estimation

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Activity Description** | **Sub-Task** | **Sub-Task Description** | **Effort (in hours)** | **Cost in INR** |
| Design the user screen | E1R1A1T1 (Effort-Requirement-Activity-Task) | Confirm the user requirements (acceptance criteria) | 2 | 1000 |
| E1R1A1T2 | Code the required interface | 5 | 2500 |
| E1R1A1T3 | Test the interface | 2 | 1000 |
| Identify data Source, setup the database and the servers | E1R2A1T1 (Effort-Requirement-Activity-Task) | Go through the institution’s records | 5 | 2500 |
| E1R2A1T2 | Set up the database with the required data | 5 | 2500 |
|  | E1R2A2T3 | Set up the server and test it | 5 | 2500 |
| Code the Software’s basic workings | E1R1A1T1 | Code the software | 15 | 7500 |
| Test the software | E1R1A1T1 | Test the software with real world inputs, with correct and incorrect inputs | 7 | 3500 |
| Optimization, Debugging and changes | E1R1A1T1 | Debug any errors and make changes for optimization | 10 | 5000 |
|  |  |  |  | Total cost= INR 28000 |

|  |  |
| --- | --- |
| **Effort (hr)** | **Cost (INR)** |
| 1 | 500 |

Infrastructure/Resource Cost [CapEx]

|  |  |  |  |
| --- | --- | --- | --- |
| **Infrastructure Requirement** | **Qty** | **Cost per qty** | **Cost per item** |
| ID Card Scanners | 4 | 2000 | 8000 |
| Face (Biometric Scanners) | 4 | 3500 | 14000 |
| Database | 2 | 151590 | 303180 |
| Server room | 2 | 400000 | 800000 |

Maintenance and Support Cost [OpEx]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Details** | **Qty** | **Cost per qty per annum** | **Cost per item** |
| People | Network, System, Middleware and DB admin  Dedicated Maintenance Staff  Developer, Tester, Support Consultant | 5 | 2,000,000 | 10,000,000 |
| License | Operating System  Database  Middleware  IDE | 10 | 10000 | 100,000 |
| Infrastructures | Server, Storage and Network | 20 | 20000 | 400,000 |

**Project Team Formation**

Identification Team members

|  |  |  |
| --- | --- | --- |
| **Name** | **Role** | **Responsibilities** |
| Member 1 | Key Business User (Product Owner) | Provide clear business and user requirements |
| Member 2 | Project Manager | Manage the project |
| Member 3 | Business Analyst | Discuss and Document Requirements |
| Member 4 | Technical Lead | Design the end-to-end architecture  Lead the Technical Team |
| Member 5 | Developer | Develop user interface, Design, Develop and Unit Test Services/API/DB |
| Member 6 | Cloud Architect | Design the cost effective, highly available and scalable architecture |
| Member 7 | Cloud Operations | Provision required Services |
| Member 8 | Tester | Define Test Cases and Perform Testing |
| Member 9 & 10 | Maintenance | Maintain the servers, database and software (Admin and other related services) |

Responsibility Assignment Matrix

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **RACI Matrix** | **Team Members** | | | |
| **Activity** | **Piyush Bisht (BA)** | **Sooraj Tomar (Developer)** | **Harshit Sharma** **(Project**  **Manager)** | **Key Business User (Students, Teachers and Admin Staff)** |
| User Requirement Documentation | A/I | C/I | R/I | R |
| Coding | C | A/R | C/I | C |
| Testing of code | C | A/R | C | C |
| Maintenance | C/I | R | C/I | I |

|  |  |
| --- | --- |
| A | Accountable |
| R | Responsible |
| C | Consult |
| I | Inform |

Result:

Thus, the Project Plan was documented successfully.