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| **PROJECT PLANNING & MANAGEMENT FORM**  **CMPE – 406**  **PROJECT NO : 1**  **PROJECT NAME :** **Physical Student Files Tracking System**  **PROJECT START DATE :28-10-2023**  **PROJECT END DATE :31-05-2024**  **SUPERVISOR : Marfi Guller**  **SEMESTER TERM : 8th semester (2023-2024 spring)**  Project Type: Software Design & Development Project  Template updated: 27.02.2023 |

A.1. Preliminary Project Information

# A.1.1

|  |  |
| --- | --- |
| **Project No** | 1 |
| **Project Name** | Physical Student Files Tracking System |
| **Start Date** | 28-10-2023 |
| **End Date** | 31-05-2024 |
| **Time** |  |

# A.1.2

|  |  |  |  |
| --- | --- | --- | --- |
| **Project Manager** | | | |
| **Name Surname** | Ahmed Afaneh | **ID No** | 20800820 |
| **Title/Role** | Backend developer | | |
| **Address** | Ekener 4 tekant area | | |
| **Phone** | +971 50 562 3433 | | |
| **Email** | 20800820@emu.edu.tr | | |

A.2 Group Information

# A.2.1

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| --- | --- | --- | --- |
| **Student 1** | | | |
| **Name Surname** | Nagham Rabie | **ID No** | 20800961 |
| **Title/Role** | Frontend Developer | | |
| **Address** | EMU Main Campus, Famagusta | | |
| **Phone** | +90 533 835 36 51 | | |
| **Email** | 20800961@emu.edu.tr | | |

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| --- | --- | --- | --- |
| **Student 2** | | | |
| **Name Surname** | Nana Coreen Zakaria | **ID No** | 20700067 |
| **Title/Role** | Frontend Developer | | |
| **Address** | Faclon 1, Gulseren, Famagusta | | |
| **Phone** | +90 533 874 14 70 | | |
| **Email** | 20700067@emu.edu.tr | | |

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| --- | --- | --- | --- |
| **Student 2** | | | |
| **Name Surname** | Mohammad Imad Khan | **ID No** | 20800922 |
| **Title/Role** | Frontend Developer | | |
| **Address** | DAU-2 Dormitory, EMU Main campus, Famagusta | | |
| **Phone** | +965 99684723 | | |
| **Email** | 20800922@emu.edu.tr | | |

# A.2.2

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| **List of Completed / Ongoing Projects of Team** |
| Image processing  Student registration system |

B.1 Introduction to Project

# B.1.1

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| **Summary of Project** |
| Our project is a web application that is expected to help relevant staff in tracking, organizing, filing, finding, and directing students’ documents to their necessary physical locations. These documents can be internship documents, student petitions, health reports, graduation form documents etc. Users should be able to view the current location of their documents as well as the tracking history of each document. |

# B.1.2

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| **Key Words** |
| Tracking, physical locations, student documents |

# B.1.3

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| **Aim of Project** |
| To create an efficient, user-friendly web application for the purpose of keeping track of the physical location of student documents to maintain security of documents as well as to avoid search time if in the event a document is required by the student or hierarchical staff. |

# B.1.4

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| **Innovative Aspects/Contributions of Project** |
| We will try our best to make the application as user-friendly as we possibly can to ensure our users have a hassle-free experience. |

# B.1.5

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| **Methods to be Applied** |
| HTML/CSS, JavaScript  Python/Django |

# B.1.6

|  |
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| **Economic and National Outcomes** |
| A user-friendly application for tracking student files that can be used by other universities for a similar purpose. |

B.2 Reason of Starting the Project, Methods and R&D Stages

# B.2.1

|  |
| --- |
| **1- Explain the reason of starting this project. (Max 500 charachter)** |
| We came across this project as one of the options for our graduation project. We chose this project as it is something that if found useful and efficient in dealing with student file tracking issues then the university can decide to adopt it as part of their system. We will work extremely hard to achieve this as it will be an honour to help the university in logistics issues by using our skills. |

|  |
| --- |
| **2- Explain the purpose of this project.** |
| The purpose is to build a user-friendly and efficient student file tracking system so that staff and students be aware of the location of their documents if they are required to access them. |
| **3- Explain**   * **output of project** * **national / international standards if exist** * **the specific objectives of the project** * **success criterias** * **realistic constraints** |
| * The output of the project is a user-friendly, efficient student file tracking system * We will look at various organizations/universities who have implemented this type of system in their work processes and will base our ideas on them * To create a hassle-free experience for system users while using our application * Staff should be easily able to track, organize, file, find and direct students about the location of their physical documents * Relocating the location of a file on the application but not exactly physically changing its location (example: not moving the file from box A to box B but the system shows the location change) |
| **4- Explain**   * **the methods to be applied during R&D activities** * **applications** * **technics and tools to be used** * **standards to be followed under the workflow** |
| **Which SOFTWARE PROCESS MODEL in below will you apply? Why? How? Explain.**  **\* The waterfall model?**  **\*V-model of software process?**  **\*Evolutionary development?**  **\*Component-based software engineering? Etc.**  **Explain, Project Workflow:** We will use the Waterfall Model for our project.   1. **Feasibility and Pre-research:** We will look at multiple tracking systems used by different organizations. We will use it as a base and then make changes for a better experience and add different features to it. 2. **System Design:** We will be working on the frontend first and then we will move on to the backend. 3. **Software development:** We will be using HTML/CSS and JavaScript for frontend development. For backend development we will using Python under the Django framework. 4. **Prototype implementation and testing work:** We will keep testing the project at each phase to avoid any bugs. 5. **Maintenance:** After the completion of the project, we will store our code and will update it incase of any changes that required to be made in the future. |
| **5- Explain**   * **the contribution of national/international technological development if exist** * **starting a new research and development projects within or outside the team** * **launch new applications or research studies in different technology areas**   **With whom we can cooperate?**  **Expectations:**  **Published work:**  **Can your output be an input for other similar national/international projects?** |
| Since our project deals with student documents, we can make our system act as a reliable international framework for schools/universities who may want to incorporate such a system in their work processes. This will make school/universities think about buying our system rather than building it themselves. |

B.3 Innovative and Unique Aspects

# B.3.1

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| **1- Describe**   * **differences** * **advantages** * **superiority**   **compared to other similar projects.** |
| Other projects like ours have a large target audience for example, residence permit registration system deals with residents living in a country. Due to the smaller audience of just staff members and students, we can approach them regarding our project to better understand the needs and wants of our users. |

# B.4.1

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| **2- Who can contribute to this project in your team?** |
| * Project Manager * Frontend Developer * Backend Developer * Tester |

C.1 Gantt Chart and Work Packages

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| C.1.1 Gantt Chart of the planned project is given below. *Paste its JPEG file below.* |

# C.1.2 List of Work Packages

|  |  |
| --- | --- |
| **Work Package No** | 1 |
| **Work Package Name** | **Project Feasibility and Pre-Research (Feasibility Analysis)** |
| **Start-End Date and Time** | (28-10-2023) – (25-11-2023) |
| **Related Organizations** | Google, Emu, past students. |

|  |
| --- |
| **1- List the activities of work packages.** |
| **1.1 Project Process and Economic Feasibility:**   * **A rough idea about the project** * **Project needs** * **Cost of similar projects and their benefits** * **Target Audience Analysis**   **1.2 Technological Feasibility:**   * **Software Requirments** * **Software processing model analysis** * **Cost Analysis of resources required** * **Concept Design** |
| **q** |
| Technical , logical and research based techniques will be used for this work package |
| **3- List the experiments, tests and analysis in the work package.** |
| * Target audience analysis * Expected profit gains analysis * Project flow tests |
| **4- List the output of work package and its success criterias.** |
| |  | | --- | | **Outputs:**  A hassle free, efficient physical student files tracking system for the user.  **Success Criterias:**   * Easy to use application for users * Can be used on multiple platforms efficiently | |
| **5- Explain the relation of output with other work packages** |
| This is the first work package without this we cannot start the next work package. |

|  |  |
| --- | --- |
| **Work Package No** | 2 |
| **Work Package Name** | **Based System Design Technology (Analysis & Design stage)** |
| **Start-End Date and Time** | (25-11-2023) – (05-05-2024) |
| **Related Organizations** |  |

|  |
| --- |
| **1- List the activities of work packages.** |
| * Determine System parameters * System Design * Compatibility on all devices and OSs * User interface testing * Evaluations and revisions |
| **2- Describe the methods and parameters that will be used for work package.** |
| * Base system interface will be designed * Initial OS platform for the project will be decided and then revised for other OSs * Evaluating the end product and making revisions wherever necessary |
| **3- List the experiments, tests and analysis in the work package.** |
| * Base design of system will be created * Checking compatibility on all devices and OSs * Testing the interface for any issues/bugs |
| **4- List the output of work package and its success criterias.** |
| **Outputs:**  The system will have its frontend completed and will be ready for the next stage.  **Success Criterias:**   * An attractive looking GUI. |
| **5- Explain the relation of output with other work packages** |
| This work package completes the frontend part of the project. It gives an abstract idea to the next work package on how to move forward with project. |

|  |  |
| --- | --- |
| **Work Package No** | 3 |
| **Work Package Name** | **Development of System Software (Development Stage)** |
| **Start-End Date and Time** | (25-11-2023)-(05-05-2024) |
| **Related Organizations** |  |

|  |
| --- |
| **1- List the activities of work packages.** |
| * Determine interface structure * Design templates for user interface * Create the database |
| **2- Describe the methods and parameters that will be used for work package.** |
| * We will use the Django framework for database and backend * Html, css, and javascript will be used for front end |
| **3- List the experiments, tests, and analysis in the work package.** |
| * Insert tables into the database * Connecting frontend to backend with java * Database query performance testing |
| **4- List the output of work package and its success criterias.** |
| **Outputs:**  The system’s backend requirement will be completed.  **Success Criterias:**   * The database has all the required details of a physical file tracking system * A smooth connection between the front and backend |
| **5- Explain the relation of output with other work packages** |
| With this work package we will have finished the major software requirements of the project and we can move on to the final stage. |

|  |  |
| --- | --- |
| **Work Package No** | 4 |
| **Work Package Name** | **Prototype Implementation and Test Study and Maintenance (Test & Maintenance stage)** |
| **Start-End Date and Time** | (05-05-2024)-(25-05-2024) |
| **Related Organizations** |  |

|  |
| --- |
| **1- List the activities of work packages.** |
| * Interface test * Server and page load speed test * Database test * Analysis of test results and system evaluation * Project closure |
| **2- Describe the methods and parameters that will be used for work package.** |
| * Testing database structure * Testing implementation of website on all devices |
| **3- List the experiments, tests and analysis in the work package.** |
| * Organizing test result reports * Preparing for project to be fully functional |
| **4- List the output of work package and its success criterias.** |
| **Outputs:**  A project that is ready to be executed.  **Success Criterias:**  System is ready for use and works smoothly without any bugs. |
| **5- Explain the relation of output with other work packages** |
| This is the final work package. With this work package, our project is complete. |

# C.1.3 List of Milestones (should be matched in the Gantt chart)

|  |  |  |
| --- | --- | --- |
|  | Description of Output | Expected Time Interval |
| 1 | Early Feasibility Research | 28-10-2023 – 25-11-2023 |
| 2 | System Design | 25-11-2023 – 05-05-2024 |
| 3 | System Development | 25-05-2024 – 05 -05 -2024 |
| 4 | Testing, Troubleshooting and Maintenance | 05-05-2024 – 25-05-2024 |
| 5 | Closure | 25-05-2024- 31-05-2024 |
| 6 |  |  |
| 7 |  |  |

# C.1.4 List of Risks (see example, define other risks of your project!)

|  |  |  |  |
| --- | --- | --- | --- |
| Risk | Probability | Effects | Your Strategy |
| The time required to develop the software is underestimated. | High | Serious | Hire temp staff |
| Software tools cannot work together in an integrated way. | High | Tolerable | Change the software tools into more synchronized tools |
| Customers fail to understand the impact of requirements changes. | Moderate | Tolerable | Educate our customers about the changes being made. |
| The rate of defect repair is underestimated. | Moderate | Tolerable | Replace potentially defective components with more reliable bought-in components. |
| The size of the software is underestimated. | High | Serious | Investigate buying SW components.  Investigate use of a program generator. |
| Code generated by code generation tools is inefficient. | Moderate | Insignificant | Change the coding language |
| Key staff are ill at critical times in the project. | Moderate | Serious | Reorganize team so that there is more overlap of work and people therefore understand each other’s jobs. |
| The database used in the system cannot process as many transactions per second as expected. | Moderate | Serious | Investigate the possibility of buying a higher-performance database. |
| The website is not secure enough for the data to not be stolen. | Moderate | Serious | We will make sure that only the people responsible for the data are the ones that use it with a login system, and we will only give people who are responsible for the data the permission to deal with it. |

C.2 Project Management and Organization

# C.2.1 Project Team

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Personnel Name | Title | ID | Education Status | Graduation Date | Date of Starting Work | Idea Owner |
| Ahmed Rami Hussein Afaneh | Project Manager/Backend Developer /Tester | 20800820 | CMPE Student  (Bachelor) | Spring 2024 | 28-10-2023 | Him |
| Nagham Rabie | Frontend Developer | 20800961 | CMPE Student  (Bachelor) | Spring 2024 | 28-10-2023 |  |
| Mohammad Imad Khan | Backend Developer/Tester | 20800922 | CMPE Student  (Bachelor) | Spring 2024 | 28-10-2023 |  |
| Nana Coreen Zakaria | UI/UX Designer | 20700067 | CMPE Student  (Bachelor) | Spring 2024 | 28-10-2023 |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

# C.2.2 Organization

# Scheme (*delete this example chart below and put your chart here!*)

Project Manager

(Ahmed Afaneh)

Everyone in this group will be responsible for testing and analysing

Analysis and testing team

Database developers

Ahmed and Mohammed Imad

Data Base Team leader (Ahmed Afaneh)

Ahmed Afaneh

Mohammed Imad Khan

Nagham Rabie

Nana Coreen

Programmers

Nagham Rabie

Nana Coreen

UI Designers

Software team

Advisor: Dr. Duygu Çelik Ertuğrul

Project Manager

(Ahmed Afaneh)

D.1 Economic Forecasts

|  |
| --- |
| **1- Evaluate the commercialization potential of project outcomes. List possible risks here?** |
| **Commercialization potential:** This project can be used by the education sector like universities, high schools and so on and also in the administrative sector of organizations. Businesses, government agencies, hospitals, firms and so on are in need of this project.  **Risks:**   1. Security of data 2. Cost and resources 3. Regulation compliance   Technical issues |

|  |  |
| --- | --- |
| **2- List your expectations to your team which are come by your project** | |
| Time-to-market (month): | November 2023 |
| The expected increase in sales revenue (%): | 70% |
| The expected increase in market share (%): | 50% |
| Time to start to gain: | July 2024 |

D.2 National Outcomes

|  |
| --- |
| **1- Specify the output that may be subject to patent, utility model and industrial design registration in the project.** |
| The Algorithm of the project may be subject to patents, utility model and industrial design registration. |
| **2- Explain the potential of project and its outputs that may have an effect on social life, education, health and etc.** |
| In the education sector, the project will facilitate administrative processes. It will increase efficiency and provide students with faster services. This can elevate the overall educational experience and lead to higher student satisfaction.  The project is also useful in healthcare, legal, and other sectors by ensuring the protection of sensitive information. This system is able to improve data security and enhance efficiency, thereby enhancing the quality of services in education, health, and other sectors.  . |
| **3- Explain the positive and negative effects of project outputs for environment and human being.** |
| The project reduces paper usage thereby fostering environmental sustainability. The paperless system also improves efficiency and productivity, possibly enhancing the work-life balance of employees.  However, the digitalization of the document management system may lead to an increase in electronic waste. |

(M013) Instrument / Equipment / Software / RELEASE PURCHASES

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Project Name** | | **Physical Student Files Tracking System** | | | | | | | | | |
| **Line no** | **Instrument / Equipment / Software / Publication Name** | | **No. of Item** | **Capacity** | **Technical specification** | **Purpose of Project Activities** | **Post-Project Place of Use / Purpose** | | **Unit Price (USD)** | **Unit Price (TL)** | **Total Amount (TL)** |
| **R & D** | **Production** |
| **1** | **Computers** | | **4** |  | **Intel Core i7/ AMD Ryzen 7;**  **Min 16GB RAM;**  **64-bit OS** | **Development and testing of the tracking system** |  | **Ongoing system maintenance and development** | **1,200** | **33580** | **134320** |
| **2** | **Database servers**  **(cloud)** | | **1** | **10TB** | **High capacity server with redundancy** | **Storing and managing document data** |  | **Ongoing database management** | **1370** | **38338** | **38338** |
| **3** | **Visual Studio Code** | | **4** |  |  | **Software development and coding** |  | **Development & software maintenance** | **Free** | **Free** | **Free** |
| **4** | **Oracle SQL Developer** | | **1** |  |  | **Database creation and management** |  | **Database management** | **Free** | **Free** | **Free** |
| **5** | **MS Project Tool** | | **4** |  |  | **Project planning, scheduling & management** |  |  | **80** | **2240** | **8960** |
| **6** | **MS Office** | | **4** |  |  | **Data analysis, ,calculations & reporting** |  |  | **80** | **2240** | **8960** |
| **7** | **Lucid Chart** | | **1** |  |  | **System design & planning** |  |  | **Free** | **Free** | **Free** |
| **8** | **Figma1** | | **1** |  |  | **UI/UX Design** |  |  | **Free** | **Free** | **Free** |
| **9** |  | |  |  |  |  |  |  |  |  |  |
| **10** |  | |  |  |  |  |  |  |  |  |  |
|  |  | |  |  |  |  |  |  |  | **TOTAL** | **190, 578 TL** |

(M030) Quarterly Estimated Cost Form (TL)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project Name : Physical Student Files Tracking System** | | | | |
| **Cost Item** | **2023** | | **TOTAL**  **(TL)** | **TOTAL COST RATE OF CONTENTS (%)** |
| **I** | **II** |
| **Personnel** | 20000 | 20000 | 40000 | 13.38% |
| **Travel** | 4800 | 4800 | 9600 | 3.2% |
| **Instrument / Equipment / Software / Publications** | 38116 | 152462 | 190578 | 63.7% |
| **Domestic Works Made By R & D and Testing Institutions** | 8000 | 6000 | 14000 | 4.68% |
| **International Works Made By R & D and Testing Institutions** | 7000 | 4000 | 11000 | 3.68% |
| **Domestic Services Procurement** | 3000 | 6000 | 9000 | 3% |
| **Overseas Service Procurement** | 3000 | 8000 | 11000 | 3.68% |
| **Material** | 4000 | 10000 | 14000 | 4.68% |
| **TOTAL COST** | 87916 | 211262 | 299178 | 100 |
| **CUMULATIVE COST** | 87916 | 299178 | 299178 | 100 |
| **IN THE PROJECT TOTAL MAN-MONTH** | | | 299178 | |

APPENDIX

1. Perform estimation of effort (Man/month), required total time duration and required number of team members by using COCOMO approach (or other methods are possible).
2. CPM (Critical Path Management) analysis by using PERT (defining paths)
3. Creating network diagram of the main tasks in WBS
4. Calculating probability of successful completion rate for each paths
5. Crashing approach, etc. techniques and the results can be written here.