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**COMSATS University Islamabad**

**Abbottabad, Pakistan**

**Project Name**

***By***

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**Student Name 2 CIIT/SP09-BCS-xxx/ATD**

***Supervisor*Supervisor Name**

***Bachelor of Science in Computer Science (2021-2025)***

**The candidate confirms that the work submitted is their own and appropriate  
 credit has been given where reference has been made to the work of others**.

****

**COMSATS University, Islamabad Pakistan**

**Project Name**

**A project presented to**

**COMSATS Institute of Information Technology, Islamabad**

**In partial fulfillment**

**of the requirement for the degree of**

***Bachelor of Science in Computer Science (2021-20x)***

**By**

**Student Name 1 CIIT/SP09-BCS-xxx/ATD**

**Student Name 2 CIIT/SP09-BCS-xxx/ATD**

**DECLARATION**

We hereby declare that this software, neither whole nor as a part has been copied out from any source. It is further declared that we have developed this software and accompanied report entirely on the basis of our personal efforts. If any part of this project is proved to be copied out from any source or found to be reproduction of some other. We will stand by the consequences. No Portion of the work presented has been submitted of any application for any other degree or qualification of this or any other university or institute of learning.

Student Name 1 Student Name 2

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**CERTIFICATE OF APPROVAL**

It is to certify that the final year project of BS (CS) “Plant Disease Diagnose System” was developed by   
**Asad Khan (FA21-BSE-081)** and Abdul Muhaimin **(FA21-BSE-061)** and **Furqan Ahmad (FA21-BSE-089)** under the supervision of “Javed Raza” and co supervisor “CO-SUPERVISOR NAME” and that in (their/his/her) opinion; it is fully adequate, in scope and quality for the degree of Bachelors of Science in Computer Sciences.

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**Supervisor**

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**External Examiner**

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**Head of Department**

**(Department of Computer Science)**

**EXECUTIVE SUMMARY**

In public places, there is often a need for monitoring people and different activities going on, which can be referred later for many reasons including security. Appointing humans for this task involves many problems such as increased employee hiring, accuracy problem, trust, no proof for later use, and also the fact that a human can remember things till a certain time limit. Talking about the current security system, they use dumb still cameras with a continuous recording facility ir-respective of the fact that any event may happen or not. Moreover they are usually pointing at a specific user defined locations so more than one cameras are required to cover the entire region.

To prevent all these problems from prevailing, the CSCS is developed. It is a surveillance system, which provides solution to many of these problems. It is a stand-alone application which doesn’t require any computer to operate. It monitors different situations using a camera which is able to rotate intelligently based on sensor messages and captures the scene in the form of video or photos later reference as well.

**C**ustomizable **S**urveillance **C**ontrol **S**ystem **(CSCS)** is a surveillance system that can be assigned a sensor type as in our case a heat sensor is used, it works accordingly, rotates the camera upon event detection and perform user defined actions like capturing video and stores them, for the future use.

It is an embedded system consisting of Linux fox kit with embedded a running server application also a camera, USB storage device and a sensor node base station is attached with fox kit. LAN communication is used by user to download the videos and to operate the system manually.

**ACKNOWLEDGEMENT**

All praise is to Almighty Allah who bestowed upon us a minute portion of His boundless knowledge by virtue of which we were able to accomplish this challenging task.

We are greatly indebted to our project supervisor “Dr. Majid Iqbal Khan” and our Co-Supervisor “Mr. Mukhtar Azeem”. Without their personal supervision, advice and valuable guidance, completion of this project would have been doubtful. We are deeply indebted to them for their encouragement and continual help during this work.

And we are also thankful to our parents and family who have been a constant source of encouragement for us and brought us the values of honesty & hard work.

Student Name 1 Student Name 2

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**ABBREVIATIONS**

|  |  |
| --- | --- |
| **SRS** | Software Require Specification |
| **PC** | Personal Computer |
|  |  |
|  |  |
|  |  |

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1. **Introduction**
   1. **Brief**

The Plant Disease Prediction System is designed to assist farmers by providing early detection of plant diseases through image analysis. With the integration of machine learning, this system offers accurate disease diagnosis based on images of plant leaves or other parts. The goal is to reduce crop losses by offering timely intervention suggestions. This document outlines the scope and functionality of the system, which includes features like image upload, disease prediction, treatment recommendations, and plant health monitoring. The system will be user-friendly, accessible to a global audience, and support various languages.

* 1. **Relevance to Course Modules**

Related to courses like AI, Software Engineering, DBMS, and App Development.

* 1. **Project Background**

Inspired by the challenges farmers face in disease identification

* 1. **Literature Review**

Existing systems include Plantix, AgroAI, Leaf Doctor. Most lack offline support, multilingual interface, or weather integration

* 1. **Analysis from Literature Review (in the context of your project)**

Our system enhances existing ideas by incorporating environmental data and community support.

* 1. **Methodology and Software Lifecycle for This Project**

Our system enhances existing ideas by incorporating environmental data and community support.

1. * 1. **Rationale behind Selected Methodology**

Agile enables iterative development; OOD supports modular, scalable design.

* + 1. **Rationale behind Selected Methodology**

It is the example of third and last level heading. Please do not insert further levels in numbers. Use different format style e.g. italic to highlight the important text.

1. **Problem Definition**

This chapter discusses the precise problem to be solved. It should extend to include the outcome.

3. 1. **Problem Statement**

Problem statement goes here.

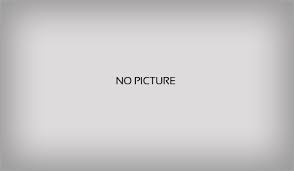
* 1. **Deliverables and Development Requirements**

Deliverables and development requirements.

* 1. **Current System (if applicable to your project)**

A brief description of an existing system.

The following figure is a sample figure, Figure 2.1. You are required to follow the same style of numbering and caption for the whole report.



*Figure 2.1: Sample picture*

The following table (Table 2.1) is sample table; you are required to follow the same style of numbering and caption for the whole report.

*Table 2.1: Sample Table*

|  |  |  |
| --- | --- | --- |
| **Header 1** | **Header 2** | **Header 3** |
| Text | Text | Text |
|  |  |  |

The following list style is the sample to consistently follow in the whole report.

* List items 1
* List items 2

1. **Requirement Analysis**

The following parts of Software Requirements Specification (SRS) report should be included in this chapter.

2. 1. **Use Cases Diagram(s)**
   2. **Detailed Use Case**
   3. **Functional Requirements**
   4. **Non-Functional Requirements**
3. **Design and Architecture**

The following parts of Software Design Description (SDD) report should be included in this chapter.

5. 1. **System Architecture**
   2. **Data Representation [Diagram + Description]**
   3. **Process Flow/Representation**
   4. **Design Models [along with descriptions]**
6. **Implementation**

This chapter will discuss implementation details supported by UML diagrams (if applicable). You will not put your source code here. Any of the following sections may be included based on your project.

1. 1. **Algorithm**

Mention the algorithm(s) used in your project to get the work done with regards to major modules. Provide a pseudocode **OR** a natural language explanation regarding the functioning of main features. Be sure to use the correct syntax and semantics for algorithm representations.

* 1. **External APIs**

Describe the APIs used in the table 5.1.

Table 5.1 shows that

*Table 5.1: Details of APIs used in the project*

|  |  |  |  |
| --- | --- | --- | --- |
| **Name of API** | **Description of API** | **Purpose of usage** | **List down the function/class name in which it is used** |
|  |  |  |  |
|  |  |  |  |

* 1. **User Interface**

Details about user interface with descriptions.

1. **Testing and Evaluation**

This chapter may include the following sections. (Students are required to perform the testing both manually and automatedly).

3. 1. **Manual Testing**

This is the sample text

1. * 1. **System testing**

Once the system has been successfully developed, testing has to be performed to ensure that the system working as intended. This is also to check that the system meets the requirements stated earlier. Besides that, system testing will help in finding the errors that may be hidden from the user. There are few types of testing which includes the unit testing, functional testing and integration testing. The testing must be completed before it is being deploy for user to use.

* + 1. **Unit Testing**

Once the system has been successfully developed

* **Unit Testing 1:** Login as FYP Committee as shown in Table 5.1

**Testing Objective:** To ensure the login form is working correctly

*Table 5.1: Login Unit Testcase*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Test case/Test script** | **Attribute and value** | **Expected result** | **Result** |
| 1. | Verify user login after click on the ‘Login’ button on login form with correct input data | Username:  L001  Password:  1234 | Successfully log into the main page of the system as FYP Committee member. | Pass |
| 2. |  |  |  |  |

* **Unit Testing 2:** Edit Profile

**Testing Objective:** To ensure the edit profile form is working properly.

*Table 5.2: Edit Profile Unit Testcase*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Test case/Test script** | **Attribute and value** | **Expected result** | **Result** |
| 1. |  |  |  |  |

* + 1. **Functional Testing**

The functional testing will take place after the unit testing. In this functional testing, the functionality of each of the module is tested. This is to ensure that the system produced meets the specifications and requirements.

* **Functional Testing 1:** Login with different roles as shown in Table 5.3

**Objective**: To ensure that the correct page with the correct navigation bar is loaded.

*Table 5.3: Login Functional Testcase*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Test case/Test script** | **Attribute and value** | **Expected result** | **Result** |
| 1. | Login as a ‘FYP Committee’ member. | Username: L001  Password: 1234 | Main page for the FYP Committee member is loaded with the FYP Committee navigation bar | Pass |
| 2. |  |  |  |  |

* + 1. **Integration Testing**

Table 5.4 shows the integration testing

*Table 5.4: Integration Testcase*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Test case/Test script** | **Attribute and value** | **Expected result** | **Result** |
| 1. | Login as “FYP Committee” member | Username: L001  Password: 1234 | Login successful and the FYP Committee page with its navigation bar is loaded and in the view profile page | Pass |
| 2. | Upload student record for Project 1 | - | File successfully uploaded and return to the upload page. Student records are updated. | Pass |
| 3. | View supervising student | - | The list of supervisees shown on the screen. | Pass |

* 1. **Automated Testing:**

This is the sample text

* + 1. **Tools used:**

Table 5.5 shows the

*Table 5.5: Tools used*

|  |  |  |  |
| --- | --- | --- | --- |
| **Tool Name** | **Tool Description** | **Applied on [list of related test cases / FR / NFR]** | **Results** |
|  |  |  |  |
|  |  |  |  |

1. **Conclusion and Future Work**

This chapter concludes the project and highlights future work.

1. 1. **Conclusion**
   2. **Future Work**
2. **References**

References to any book, journal paper or website should properly be acknowledged. Please consistently follow the style. The following are few examples of different resources i.e. journal article, book, and website.

* 1. Lyda M.S. Lau, Jayne Curson, Richard Drew, Peter Dew and Christine Leigh, (1999), Use Of VSP Resource Rooms to Support Group Work in a Learning Environment, ACM 99, pp-2. **(Journal paper example)**
  2. Hideyuki Nakanishi, Chikara Yoshida, Toshikazu Nishmora and TuruIshada, (1996), FreeWalk: Supporting Casual Meetings in a Network, pp 308-314 **(paper on web)** http://www.acm.org/pubs/articles/proceedings/cscw/240080/p308-nakanishi.pdf
  3. Ali Behforooz& Frederick J.Hudson, (1996), Software Engineering Fundamentals, Oxford University Press. Chapter 8, pp255-235. **(book reference example)**
  4. Page Author, Page Title, http://www.bt.com/bttj/archive.htm, Last date accessed**. (web site)**