## A

## Project Synopsis on topic

## “E-Complaint System”

*Submitted in the partial fulfillment for the award of the Degree of*

## BACHELOR OF COMPUTER APPLICATION

*BY*

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**ABSTRACT**

Online **" E-Complain System"** is basically developed to make public easy E-Complain regarding their any sort of problem. This site gives a platform to the users who have issues but can't make complain due to some problem. Now, this site will minimize users stress, all they need to make profile here and post their issues here which be forwarded to the higher authority by admin to get sorted.

**Introduction**

Project Statement

The "E-Complain System" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and, in some cases, reduce the hardships faced by the existing system. Moreover, this System is designed for the particular need of the company to carry out operations in a smooth and effective manner.

Objectives

* The application is reduced as much as possible to avoid errors while entering the data.
* It also provides error message while entering invalid data.
* No formal knowledge is needed for the user to use this system.
* Thus, by this all it proves it is user-friendly.
* Government enquiry and e-complain system, as described above can lead to error free, secure, reliable and fast management system.
* It can assist the user to concentrate on their other activities rather to concentrate on the record keeping.
* Thus, it will help organization in better utilization of resources.
* Every organization, whether big or small has challenges to overcome and managing the Enquiry and complain.

This website is all in one National Enquiry and Complain System. It is used to manage and forward complaints related to some Government Department posted by users. Users can register and create their profiles here and subsequently they get access to post a complain regarding any department linked. Further admin will proceed with those complains to higher authority if admin thinks that the complaint given by the user is genuine. This site takes one step forward towards Online services for Government Department and make resources easy to consume.

Our project is basically for helping the citizens whose complaints never reach to particular government departments. They face the problem of finding ways to contact the officials, which results in the loss of time, and money and hence the justice awaits.

In this project, we are going to make such a portal on which the users register their self and post their complaints related to particular departments and brief description of their issue. If the complaint seems true or genuine, then Admin accepts the complaint and forward it to that respective department.

**SYSTEM ANALYSIS**

## 2.1) INTRODUCTION

System analysis is the process of gathering and interpreting facts, diagnosing problems, and using the information to recommend improvements on the system. System analysis is a problem-solving activity that requires intensive communication between the system users and system developers.

System analysis or study is an important phase of any system development process. The system is viewed as a whole, the inputs are identified and the system is subjected to close study to identify the problem areas. The solutions are given as a proposal. The proposal is reviewed on user requests and suitable changes are made. This loop ends as soon as the user is satisfied with the proposal.

## 2.2) SYSTEM REQUIREMENTS AND SPECIFICATIONS

**Purpose**

The purpose of this project is to provide the complaints for different department and getting reply from the Admin. User may have complaints about its any government department. They will be given an email id, where they can send an email when they have a complaint to register. The complaints can be assigned to different persons and will get tracked to closure. The person handling the complaint will have the facility to communicate with the customer via emails through the system.

The purpose of e-complaints is to brings more transparency into the system. All complaints are processed after confirming the veracity of the complainant and further action is taken as per laid down procedure under Indian government guideline. No action is taken no on the anonymous complaints according to government guidelines.

**Existing system**

In Existing System Customers of the Organization has to Visit the Organization Whenever they have any Complaints regarding the Products of the Organization. This wastes lot of time Whenever a customer of the bank requires service from the bank he required moving to the bank and then he required to submit the compliant to the specified officer. The problem is written in paper and will be submitted at the bank. Then the manager will look after it and then he will take care about the customer's problems. After that the manager will enquire and allocate the problem to the specified person in that department. The person will enquire the problem and then rectifies it.

**Proposed system**

In the proposed system we have the following new implementations: Users of the system, Customers of the E-Complaint System. Here again any number of groups can be assumed. The complaints can be assigned to different persons and will get tracked to closure. The person handling the complaint will have the facility to communicate with the customer via emails through the system.

The proposed system is automated process of sending request through the web-based system. The complaints can be sent easily by the customer from anywhere. The services are given through the system are through the email.

Advantages of proposed system: -

* It will reduce the effort and time of registering the criticism manually by means of lodging complaint on-line.
* Also the fame of the complaint lodged can be tracked easily i.e. whether or not the criticism is rejected, time-honored, processing or solved.
* It is person-friendly and cost-powerful.
* The person handling the complaint will have the facility to communicate with the customer via emails through the system.
* Services are given through the system are through the email.

**2.3) Hardware Requirement**

|  |  |
| --- | --- |
| CPU | Dual Core or above |
| RAM | Minimum 1GB |
| Hard disk Space | Minimum 2GB |
| Display | Any(CRT,LCD) |
| I/O Devices | Keyboard and Mouse |

**2.4) Software Requirement**

|  |  |
| --- | --- |
| OS | Window 7 and above |
| Front End | HTML5,CSS3,JavaSript,Bootstrap |
| Backend | PHP |
| Database | MySQL |
| Server | XAMPP |
| IDE | Visual Studio Code |
| Browser | Chrome |

**2.5) Tools & Technology used**

2.5.1) Tools used– XAMPP, VS Code, Notepad.

# 2.5.2) Technology Used - Frontend - HTML, CSS, JavaScript

**1) HTML5**

HTML5 is the latest version of Hypertext Markup Language, the code that describes web pages. It's three kinds of code: HTML, which provides the structure; Cascading Style Sheets (CSS), which takes care of presentation; and JavaScript, which makes things happen.

HTML5 has been designed to deliver almost everything you'd want to do online without requiring additional software such as browser plugins. It does everything from animation to apps, music to movies, and can also be used to build incredibly complicated applications that run in your browser.

There's more. HTML5 isn't proprietary, so you don't need to pay royalties to use it. It's also cross platform, which means it doesn't care whether you're using a tablet or a smartphone, a netbook, notebook, or Ultrabook or a Smart TV: if your browser supports HTML5, it should work flawlessly.

Inevitably, it's a bit more complicated than that. More about that in a moment.

We've come a long way since HTML could barely handle a simple page layout. HTML5 can be used

to write web applications that still work when you're not connected to the net; to tell websites where you are physically located; to handle high definition video, and to deliver extraordinary graphics.

1. **CSS3**

Cascading Style Sheets Level 3 (CSS3) is the iteration of the CSS standard used in the styling and formatting of Web pages. CSS3 incorporates the CSS2 standard with some changes and improvements. A key change is the division of standard into separate modules, which makes it easier to learn and understand. As of February 2014, the standard is still under development by the World Wide Web Consortium (W3C), but a number of the CSS3 properties have been implemented in the latest versions of some Web browsers.

CSS3 makes changes to how some visual elements are implemented and rendered by a browser. However, it is not a single hugely unwieldy specification, unlike CSS2. CSS3 is separated into separate modules to facilitate development. This means that the specification comes out in chunks, with more stable modules than others.

1. **JAVASCRIPT**

JavaScript is a scripting or programming language that allows you to implement complex features on web pages — every time a web page does more than just sit there and display static information for you to look at — displaying timely content updates, interactive maps, animated 2D/3D graphics, scrolling video jukeboxes, etc. — you can bet that JavaScript is probably involved. It is the third layer of the layer cake of standard web technologies after HTML and CSS.

JavaScript is a scripting language that enables you to create dynamically updating content, control multimedia, animate images, and pretty much everything else.

The core client-side JavaScript language consists of some common programming features that allow you to do things like:

* 1. Store useful values inside variables. In the above example, for instance, we ask for a new name to be entered then store that name in a variable called name.
  2. Operations on pieces of text (known as "strings" in programming). In the above example, we take the string "Player 1: " and join it to the name variable to create the complete text label, e.g. ''Player 1: Chris".
  3. Running code in response to certain events occurring on a web page. We used a click event in our example above to detect when the button is clicked and then run the code that updates the text label.

What is even more exciting however is the functionality built on top of the client-side JavaScript language. So-called **Application Programming Interfaces** (**APIs**) provide you with extra superpowers to use in your JavaScript code.

APIs are ready-made sets of code building blocks that allow a developer to implement programs that would otherwise be hard or impossible to implement. They do the same thing for programming that ready-made furniture kits do for home building — it is much easier to take ready-cut panels and screw them together to make a bookshelf than it is to work out the design yourself, go and find the correct wood, cut all the panels to the right size and shape, find the correct-sized screws, and then put them together to make a bookshelf.

**Back-End:**

1). PHP

PHP is an acronym for "PHP: Hypertext Preprocessor". It is a widely-used, open source scripting language. PHP scripts are executed on the server. It is free to download and use. It is an amazing and popular language. It is powerful enough to be at the core of the biggest blogging system on the web (WordPress). It is deep enough to run large social networks. It is also easy enough to be a beginner's first server side language.

What is a PHP File?

* PHP files can contain text, HTML, CSS, JavaScript, and PHP code
* PHP code is executed on the server, and the result is returned to the browser as plain HTML
* PHP files have extension “. php”.

What Can PHP Do?

* PHP can generate dynamic page content
* It can create, open, read, write, delete, and close files on the server
* It can collect form data
* It can send and receive cookies
* It can add, delete, modify data in your database
* It can be used to control user-access
* It can encrypt data
* With PHP you are not limited to output HTML. You can output images, PDF files, and even Flash movies. You can also output any text, such as XHTML and XML

**Webserver** – XAMPP

The full form of XAMPP is Cross-platform, Apache server, MySQL, PHP, Perl programming language.

XAMPP has the ability to serve web pages on the World Wide Web. A special tool is provided to password-protect the most important parts of the package. XAMPP also provides support for creating and manipulating databases in MariaDB and SQLite among others.

**Database** – MySQL

MySQL is currently the most popular database management system software used for managing the relational database. It is open-source database software, which is supported by Oracle Company. It is fast, scalable, and easy to use database management system in comparison with Microsoft SQL Server and Oracle Database. It is commonly used in conjunction with PHP scripts for creating powerful and dynamic server-side or web-based enterprise applications.

It is developed, marketed, and supported by MySQL AB, a Swedish company, and written in C programming language and C++ programming language. The official pronunciation of MySQL is not the My Sequel; it is My Ess Que Ell. However, you can pronounce it in your way. Many small and big companies use MySQL. MySQL supports many Operating Systems like Windows, Linux, MacOS, etc. with C, C++, and Java languages.

**SYSTEM DESIGN**

**3.1) INTRODUCTION**

* System design is the solution to the creation of a new system. This phase focuses on the detailed implementation of the feasible system. Its emphasis on translating design to performance specification. Systems design is the process of defining the architecture, modules, interfaces, and data for a system to satisfy specified requirements. Systems design could be seen as the application of systems theory to product development. There is some overlap with the disciplines of systems analysis, systems architecture, and systems engineering.

**3.1.2) LOGICAL & PHYSICAL DESIGN**

* **Logical Design**:

During the logical design phase, the analyst describes inputs (sources), outputs (destinations), databases (data sources), and procedures (data flows) all in a format that meets the user requirements. The analyst also specifies the needs of the user at a level that virtually determines the information flow in and out of the system and the data resources. Here the logical design is done through data flow diagrams and database design. The logical design is followed by physical design or coding.

* **2. Physical Design:**

The physical design produces the working system by defining the design specifications, which specify exactly what the candidate system must do. The programmers write the necessary programs that accept input from the user, perform necessary processing on accepted data, and produce the required report on a hard copy or display it on the screen.

**3.1.3) INPUT AND OUTPUT DESIGN**

* **Input Design:**

Input design is the link that ties the information system into the world of its users. The input design involves determining the inputs, validating the data, minimizing the data entry, and provides a multiuser facility. Inaccurate inputs are the most common cause of errors in the data processing. Errors entered by the data entry operators can be controlled by input design. The user-originated inputs are converted to a computer-based format in the input design. Input data are collected and organized into groups of similar data. Once identified, the appropriate input media are selected for processing. All the input data are validated and if any data violates any conditions, the user is warned by a message. If the data satisfies all the conditions, it is transferred to the appropriate tables in the database. In this project, the customer details are to be entered at the time of registration. A page is designed for this purpose which is user friendly and easy to use. The design is done such that users get appropriate messages when exceptions occur.

* **Output Design:**

Computer output is the most important and direct source of information to the user. Output design is a very important phase since the output needs to be in an efficient manner. Efficient and intelligible output design improves the system relationship with the user and helps in decision making. Allowing the user to view the sample screen is important because the user is the ultimate judge of the quality of output. The output module of this system is the selected notifications.

**3.1.4) DATABASE DESIGN**

* **Database:**

Databases are the storehouses of data used in the software systems. The data is stored in tables inside the database. Several tables are created for the manipulation of the data for the system.

* **Primary Keys:**

The field that is unique for all the record occurrences. A primary key is a special relational database table column (or combination of columns) designated to uniquely identify all table records. A primary key's main features are: It must contain a unique value for each row of data. It cannot contain null values.

**3.1.5) SYSTEM TOOLS**

The various system tools that have been used in developing both the front end and the back end of the project are being discussed

**1) Front End:**

HTML, CSS, JAVASCRIPT, PHP are utilized to implement the frontend.

**HTML (Hypertext Mark-up Language):** HTML is a syntax used to format a text

document on the web.

**CSS (Cascading Style Sheets):** CSS is a style sheet language used for describing the look and formatting of a document written in a mark-up language.

**Java Script**: JS is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed.

**PHP:** It was designed for creating dynamic web pages and web pages that effectively work with databases.

1. **Back End:**

* The back end is implemented using MySQL which is used to design the databases.
  + **MySQL:** MySQL is the world’s second most widely used open-source relational database
* management system (RDBMS). The SQL phrase stands for Structured Query Language.

## 3.2) DATA FLOW DIAGRAM:

A data-flow diagram (DFD) is a way of representing a flow of data of a process or a system (usually an information system). It also provides information about the outputs and inputs of each entity and the process itself. A data-flow diagram has no control flow, there are no decision rules and no loops.

Specific operations based on the data can be represented by a flowchart.

**DFD Symbols:**

Four basic symbols are used to represent a data-flow diagram.

**1. Process:**

A process receives input data and produces output with different content or form. Processes can be as simple as collecting input data and saving in the database. Every process has a name that identifies the function it performs. The name consists of a verb, followed by a singular noun.

Notation-

* A circle (bubble) shows a process that transforms data inputs into data outputs
* Processes are given IDs for easy referencing.

**2. Data Flow:**

A data-flow is a path for data to move from one part of the information system to another. A data flow may represent a single data element such as the Customer ID or it can represent a set of data elements (or a data structure).

Notation-

* Straight lines with incoming arrows are input data flow.
* Straight lines with outgoing arrows are output data flows.

**3. Data Store:**

A data store or data repository is used in a data-flow diagram to represent a situation when the system must retain data because one or more processes need to use the stored data at a later time.

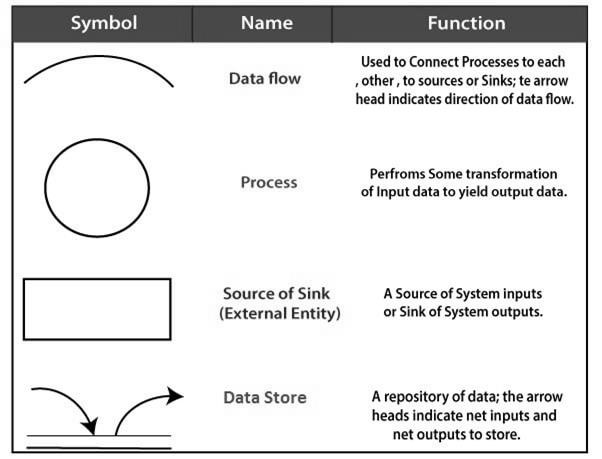
Notation-

1. Data can be written into the data store, which is depicted by an outgoing arrow
2. Data can be read from a data store, which is depicted by an incoming arrow.
3. Examples are inventory, Accounts receivables, Orders, and Daily Payments.

**4.External Entity:**

An external entity is a person, department, outside organization, or other information systems that provide data to the system or receives outputs from the system. External entities are components outside of the boundaries of the information systems. They represent how the information system interacts with the outside world.

1. A rectangle represents an external entity
2. They either supply data or receive data
3. They do not process data



*Figure 2: Symbols of Data Flow Diagram*

**CONSTRUCTING A DFD:**

The following observations about DFDs are essential:

1. All names should be unique. This makes it easier to refer to elements in the DFD.
2. Remember that DFD is not a flow chart. Arrows is a flow chart that represents the order of events; arrows in DFD represents flowing data. A DFD does not involve any order of events.
3. Suppress logical decisions. If we ever have the urge to draw a diamond-shaped box in a DFD, suppress that urge! A diamond-shaped box is used in flow charts to represents decision points with multiple existing paths of which the only one is taken. This implies an ordering of events, which makes no sense in a DFD.
4. Do not become bogged down with details. Defer error conditions and error handling until the end of the analysis.

**Types of DFD:**

1. Logical DFD - This type of DFD concentrates on the system process, and flow of data in the system. For example in a Banking software system, how data is moved between different entities.
2. Physical DFD - This type of DFD shows how the data flow is implemented in the system. It is more specific and close to the implementation.

**Levels of DFD:**

1. Level 0 - Highest abstraction level of DFD is known as Level 0 DFD, which depicts the entire information system as one diagram concealing all the underlying details. Level 0 DFDs are also known as context level DFDs.
2. Level 1 - The Level 0 DFD is broken down into more specific, Level 1 DFD. Level 1 DFD depicts basic modules in the system and the flow of data among various modules. Level 1 DFD also mentions basic processes and sources of information.
3. Level 2 - At this level, DFD shows how data flows inside the modules mentioned in Level 1. Higher level DFDs can be transformed into more specific lower-level DFDs with a deeper level of understanding unless the desired level of specification is achieved.

## 3.3) ENTITY RELATIONSHIP DIAGRAM:

An entity-relationship diagram (ERD) shows the relationships of entity sets stored in a database. An entity in this context is an object, a component of data. An entity set is a collection of similar entities. These entities can have attributes that define its properties. By defining the entities, their attributes, and showing the relationships between them, an ER diagram illustrates the logical structure of databases. ER diagrams are used to sketch out the design of a database.

**Components of the ER Diagram:**

1. **Entity:**

An ERD entity is a definable thing or concept within a system, such as a person/role (e.g. Student), object (e.g. Invoice), concept (e.g. Profile), or event (e.g. Transaction). In ER models, an entity is represented as a rectangle. A weak entity is an entity that must be defined by a foreign key relationship with another entity as it cannot be uniquely identified by its attributes alone.

1. **Entity Attributes:**

Attributes are a property or characteristic of the entity that holds it. An attribute has a name that describes the property and a type that describes the kind of attribute it is, such as varchar for a string, and int for integer. When an ERD is drawn for physical database development, it is important to ensure the use of types that are supported by the target RDBMS. They are represented by ovals.

1. **Relationship:**

A relationship between two entities signifies that the two entities are associated with each other somehow. They are represented by diamond shapes and show how two entities share information in the database.

**4) Primary Key:**

A primary key is a special kind of entity attribute that uniquely defines a record in a database table. In other words, there must not be two (or more) records that share the same value for the primary key attribute.

1. **Cardinality:**

Defines the numerical attributes of the relationship between two entities or entity sets.

* 1. **One to One**: One entity from entity set X can be associated with at most one entity of entity set Y and vice versa.
  2. **One to Many:** One entity from entity set X can be associated with multiple entities of entity set Y, but an entity from entity set Y can be associated with at least one entity.
  3. **Many to One:** More than one entity from entity set X can be associated with at most one entity of entity set Y. However, an entity from entity set X may or may not be associated with more than one entity set X.
  4. **Many to Many:** One entity from X can be associated with more than one entity from Y and vice versa.

**Steps To Create ER-Diagram:**

Step 1: Entity Identification

Step 2: Relationship Identification

Step 3: Cardinality Identification

Step 4: Identify Attributes

Step 5: Create the ERD

**Entity Relationship Diagram Notation:**

|  |
| --- |
|  |

Rectangle: This symbol represents

entity types.

Ellipse: Symbol represents an attribute.



Lines: It links attributes to entity and entity types with other relationship types.



Double Ellipse: Represents multivalued attributes.

Diamond: This symbol represents relationship types.

### Primary

Key Attributes are underlined.

### **SCOPE OF THE**

**PROJECT**

* This idea is new and no one is solving this problem and this problem is almost faced by all the citizen who are utilizing government services.
* Users will find better and easy way to resolve their issues and save their time.
* This project will also help government to get rid of fake complaints.