CHHATTISGARH POLICE

Dispatch Management

Submitted in partial fulfilment of the requirement of

BACHELOR OF TECHNOLOGY
IN
INFORMATION TECHNOLOGY

Submitted By

Madhurendra Purbay
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Under the supervision of

Dr. Amit Kumar Khaskalam

TO

DEPARTMENT OF INFORMATION TECHNOLOGY
INSTITUTE OF TECHNOLOGY,
GURU GHASIDAS VISHWAVIDYALAYA BILASPUR, INDIA
(CENTRAL UNIVERSITY)
SESSION: 2016-2017

DECLARATION

We, hereby declare that the work presented in this dissertation entitled "**Dispatch Management**" for the office of Superintendent of Police, Bilaspur has been done by us, and this dissertation embodies our own work.

Name of team members

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CERTIFICATE

This is to certify that the project entitled "**Dispatch Management"** carried out by Madhurendra Purbay & Vishal Kumar under my supervision at department of Information Technology, Institute of Technology, Guru Ghasidas Vishwavidyalaya, Bilaspur.

To the best of my knowledge and belief the report

- Embodies the work of the candidates themselves.
- Has been duly completed.
- Fulfills the requirement of the B.Tech Degree of the University.

Signature of the Supervisor

(Amit Kumar Khaskalam)

Assistant Professor

CERTIFICATE BY THE EXAMINERS

The Project Report entitled "**Dispatch Management**" for Superintendent of Police, Bilaspur Submitted by Madhurendra Purbay (Roll No.-21) and Vishal Kumar (Roll No.-36) has been examined by the undersigned as a part of the examination and fulfills the requirement of Bachelor of Technology in Information Technology of Guru Ghasidas Vishwavidyalaya, BILASPUR.

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(Signature) *(Signature)*

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Designation Designation

Date: Date:

Head
Information Technology

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We express our deepest gratitude to **Dr. Amit Kumar Khaskalam** our *project guide* for his technical support and advice in completion of the project without which the project wouldn't be in the shape it is today. We also express our deepest gratitude to **Mr. Mayank Kumar Shrivastav (IPS)** *Superintendent of police* who gave us opportunity to do this live project under his supervision.

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We would like to have a special mention of my family who backed me to the bring the best out of time every time we felt the heat , every time we felt the pressure. The support of our parents has really paved the way for eternal strength that has always helped me in getting through tough times. Indeed, we would like to thanks everyone who has been an integral part of this project.

PREFACE

This project is intended as a structural building block of a software that is liable to be modified with changing time. We have tried presenting the techniques and design of greatest interest to the current practitioner, along with the supporting motivation and background material. It also provides a comprehensive source from which we have learned a lot serving both students and organization itself.

Our goal was to assimilate the existing parameters of developing the software and bringing out the complete interface as per the requirements proposed. It has been a wonderful learning experience to acknowledge a real time live project and to see its derivation and revision in the near future. Throughout each phase, we emphasize the relationship between various aspects of designing a java based software. Background sections commence least part of the project since a very integrated database has been used for collecting data from the users and therefore providing a framework and perspective search or print as per the requirement of the user. Immense designing has been intentionally omitted, in favour of organization which specified in sufficient detail to allow large design integration and intervention to unfold. We believe this style of presentation allows a better understanding of the interface to the user.

The presentation also strongly delineates the fact that we have used any language that is out of context in regard to the project and it has been taken as a strong concern to use technical language rather than any informal means of presenting things, we have strongly tried to use the language in context to the organization and eliminate anything that is insane in context to the project.

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INTRODUCTION

The project that follows the java based software for the office of Superintendent of Police, Bilaspur. This office has its dispatch section where many letters comes from various departments as well as police headquarter including public. And also this department send letters to Inspector General of Police, Police Headquarter and public. The main aim of this software is to keep all the track of letter that are being sent or has come to his office. It also keeps the track of letter that in which department of Superintendent of Police has received. This software keeps the basic information of letter that what contain it holds in matter part section.

Moreover it is also presented as a fulfilment of the minor project as the part of our academics in B.TECH sixth semester. The software has not been designed with huge integrations and interventions from the past, it has been made sleek and simple in order to meet the requirement as possessed to us. However there will be a lot of future interventions and modification that will done continuously as to keep pace with the response the office gets from this primitive structured requirement. The current project only deals with the requirements that were presented to us by the superintendent of Police office itself, the structure may transform in the near future depending upon the approach of the office. Indeed, this project is only the structural representation of the requirement specifications presented to us, the project is liable to be modified even after the completing of our minor project.

ABSTRACT

The dichotomy of making a project is to meet all the requirements as well as the entirety of justifying it completely has landed us in presenting this very project. The purpose of making such a project has been achieved in the journey of making it. The primary focus of learning the highest range of skills is however not mastered but of course entrenched to a more superlative state.

First of all this project is not work of fiction, this is a real time project that not only holds a basic requirement but also boosts the digitization of the organization it is made for. We would like to make you know that we were approached by Mr. Mayank Shrivastav (IPS), Superintendent of Police, Bilaspur to make their software in order to get digitization in their departments. The requirements were proposed to us weren't too extensive, so the software that we have made fulfils all the requirement that are needed in dispatch section.

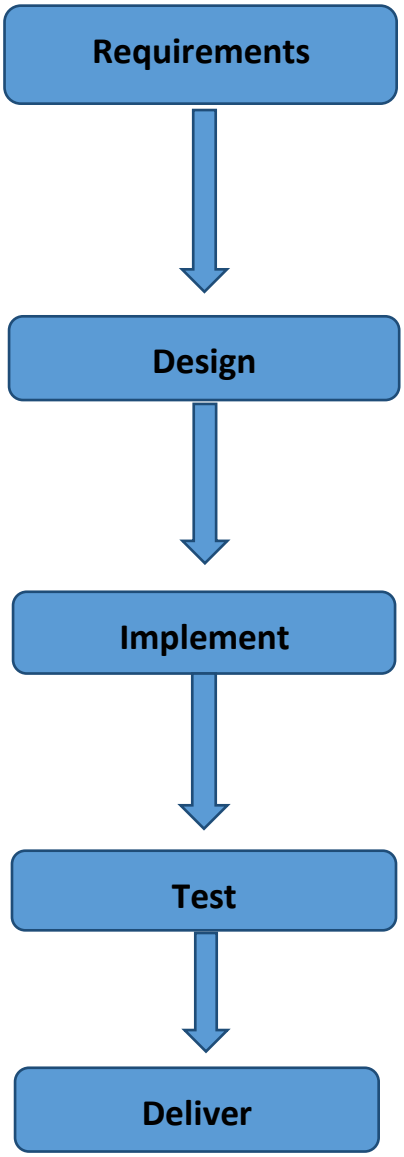
The software is predominantly created on java along with MS Access as database as per their requirement. Moreover, we have also tried to make the pages sleek and simple keeping in mind the employer's view who enter the data .This software get data input in any language as they frequently use hindi language for office work.

Our learning objective has been ambit wide considering that we have not only learned to make a software in java including database but also learn how to deal with organization, how to fulfil the requirement that they want, What are the problem they are facing now . The main aim of the organization was to make their department digitalized.

We have used MS Access as database for taking all enquires through our software, the database is created on MS Access and is also a part of paid hosting for our domain.

The descriptive phase of all important aspects covered in this project is discussed thoroughly in the further sections of the project to follow. We have also tried to maintain intense decency with regard to the language we have used in the documentation of this project.

Work plan



Requirement:-

In the requirement phase we need to create the software which is specified. What is the need of the system is defined. To create the system for the development of "Dispatch Management Software", we need information and that will come under the requirement phase.

Design:-

After the requirement phase the next phase is the Design phase where the software is designed according to the requirements given by the Superintendent of police, Bilaspur and other modules created. This phase is most important phase because it will structure the layout of the software. Moreover, it is also been a great concern to maintain great sense of decency with the word and the style sheets used in the project. Since the software is for an public organization, it should be drastically precise when it comes to having a interface that is very interactive and simple. We will try and take major precautions for ensuring the same.

Implementation:-

Implementation is the process of having a system personnel phase check out and new equipment into use train users, install new application and construct any file of data need to use it. The implantation projected as a great concern since this is the phase that includes the budgetary part of the project as well as the core of the project. The core includes the customers it will handle and the kind of data is maintained by the department in the software.

Verification:-

After the whole software is being developed the main phase is the verification phase where the whole software is tested and verified to check if the software is immune to any unfavourable response while insertion, searching and printing. It also ensures if the software is working properly.

Maintenance:-

After the verification of the software the main phase is the maintenance phase where the software needs to be maintained for its successful operation in future. Since maintenance involves the second a major impact on the budgetary of the project, so we will try to make sure to minimize the maintenance cost in the near future.

Project Plan:-

Project planning establishes a plan for the software engineering work that follows. It describes the technical tasks to be conducted, the risk that are to be minimized, the resources that will be required, the work product to be produced and a work schedule.

Roles and Responsibility:-

We, the member of project have performed all the activities related to analysis, design documentation, coding and testing from start to end collectively by consensus. We have tried adapting to the work environment and also with our partners of the project.

Analysis:-

Understanding the requirements is among the most difficult task that a software engineer faces.

As far as our project is concern, we had studied various projects related to software development. We also studied projects previously developed in the college. We have analysed the system also.

Designing:-

Design engineering is the set of principle the of principles concepts and practices that lead to the development of high quality system or product design principles establishes on overriding philosophy that guides designer in the work that is performed.

Software designates at the technical kernel of software engineering and is applied regardless of the software process model that is used. Beginning once software

requirements have been analysed and modelled, software design is the last software engineering action within the modelling activity and the stage for construction.

As far as our project is concerned, we have designed the process model, data model and also viewer model that will be going to be implemented in the coding phase. To make efficient development model we have developed various diagram.

Like data flow diagram to understand the user interactions, flow of data through the information system respectively.

Coding:-

On completion on design phase, we started coding and designing the page of software using java netbeans where we get easily drag and drop method for designing and various tools that are required in making the software. We have to include some extra jar file for connectivity with MS Access as database. We patch up the database using administrative tools with software.

Testing:-

Software testing has dual function, it is used to establish the presence of defects in the program and it is used to help judge whether or not the program is usable in practice. Thus software testing is used for validation and verification, which ensure software confirm to its specification and meets the need of the software customer. We have tested almost interface components together and all test have been succeeded. Testing has been applied for all stages of process.

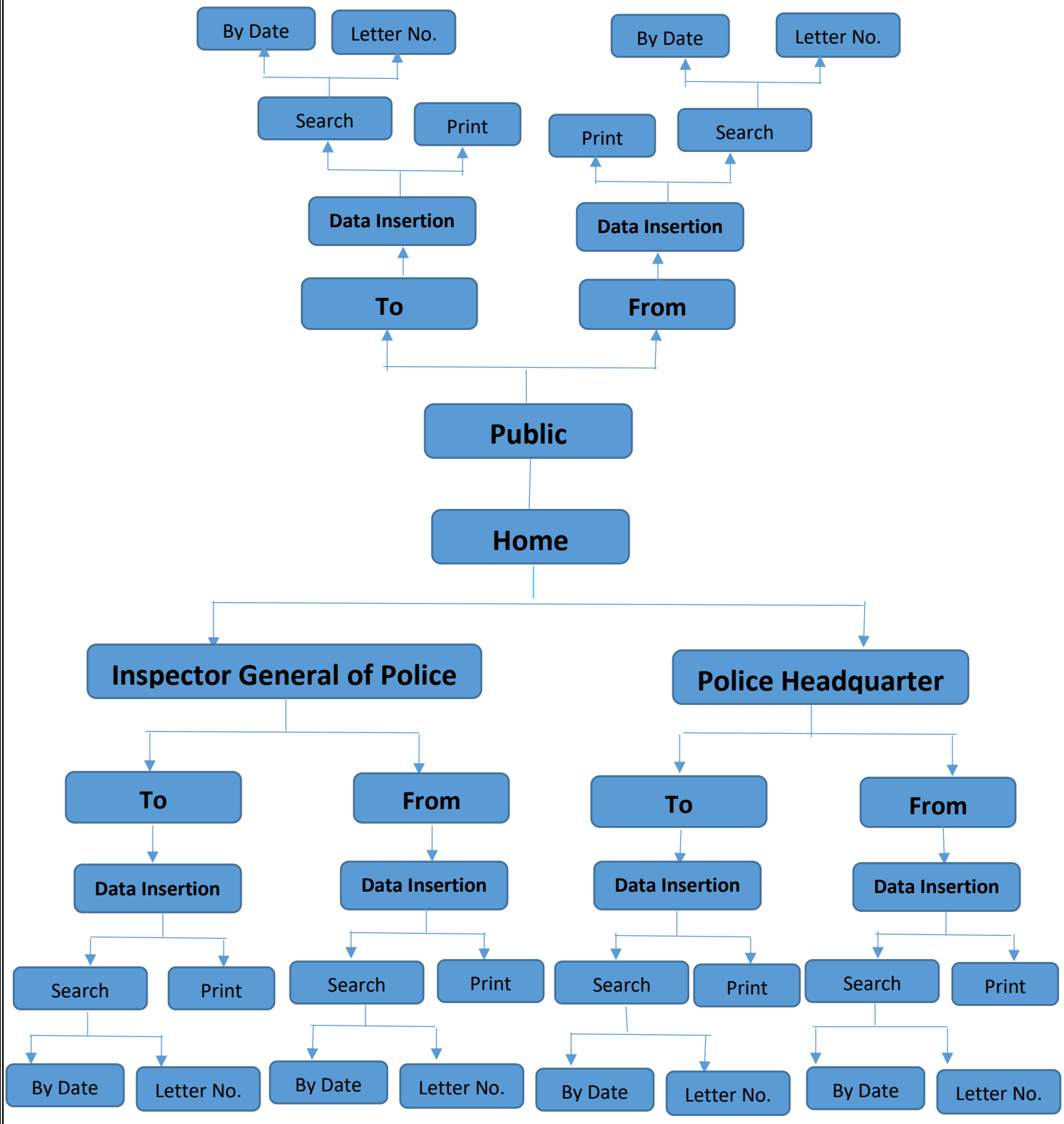
PROBLEM SPECIFICATION DOCUMENT

The project will involve creating for public organization named as Dispatch Management of Superintendent of Police in Bilapsur city. The software will provide a interface for the user to directly insert their data that are present in the letter. Database system will be used in recoding all the data that the user has inserted and will be used as future use in searching and printing and for finding the status of the data.

The efficient design of the page will allow the user to quickly submit a data or repot into the database without any data loss. It will save a lot of time for user, if data search is required in future or to print the data.

We have taken utmost care to ensure that the software must be informative and user-friendly. However security isn't a part of this project since we weren't presented with any such specification that included the security concern of the software. It should be designed in such a way that it's easy for anyone to get familiar with the software page and code anytime in the future if there exists a requirement for any further modifications. It is so designed to meet the scope of any future expansion with minimum budgetary and minimum maintenance. In addition, the project has also been documented with all the requirement specification mentioned by the organization.

Data Flow Diagram



Software Requirement Specification

1. Introduction

1.1 Purpose

The project focuses on making a software for Superintendent of Police who has its Dispatch Section. It is not made for any economical purposes and we have not been paid for making this software. The project has been also modelled as our legitimate effort for the minor project in this semester.

1.2 Document Conventions

The language used throughout the SRS has been subtle and simple. We have tried to stick to the point of only demonstrating the scripting thus it is possibly our best effort considering all resources we have. This document also shares the various vital aspects of the project.

1.3 Intended Audience and Reading Suggestions

The intended audience for this very project is the entire department(Information Technology) and who everyone has been an integral part in making this project come to live and most importantly our mentor who has guided us all through the project. Apart from the formal readers, the external guide SP sir ASP sir and SI sir who helped us throughout project. They gave us problem specification on which we worked for developing Dispatch software.

1.4 Product Scope

The major goal has been to provide the user an easy to insert all the data that they require to enter into the file. It basically gives user interface through which it liable to insert data easily. It also helps user to search data on the basis date or by letter number. They can also see the last data they have inserted while entering current data.

1.5 References

Problem specification given by department itself as document.

2. Overall Description

2.1 Product Perspective

The software is basically made for liable for user. The main of this software is to make the Dispatch section digitalized. It gives user to search and check the status of letter where it has gone. It also provides user to print all the data if they hard copy of it. The user can also see all the data they have inserted in database.

2.2 Product Functions:

The product is so designed so as to perform the basic function as prescribed in the requirement by the organization itself. Some of the primitive functions and highlights are as under:

1. The user can select the department from where letter has came or gone i.e either from IG office or police headquarter or from public.

2. The user can insert data as per date wise. They can select date from date combobox. They can also select name of department for drop down menu. If the name is not present in drop down menu then they can select other option and while submitting they can enter the particular department name.

3. User can see last data inserted while inserting the current data. User has enter the current serial number by seeing last data serial number which has been shown in the bottom of that insertion page.

4. This software provides user to search specific data by letter number or by date. In date search they can select the two between dates and can see all the data that has been inserted in between those particular date.

5. It provides user to print all the data between two specific dates as per their need.

2.3 User Classes and Characteristics

The user class that will be the predetermined focus of the developed software are stated as under:

1. The user will not get any difficulty while operating this software as it its user interface is well fine and easy understandable.

2. User will get reliable will searching and printing the document that they need. It will easy user.

The major characteristics will include:

1. The interface should not be jolty, it should be simple with the logo of the organization is top side of the page with name of the department and section for which this software has been made. The user should only be able to view the navigation bar once he makes a movement with the mouse and moves the cursor.

2. The page will serve a way to intake requirements from the user if they want to enter any data.

3. The user of the software should monitored all the data that as been inserted in correct and see the requirement if the organization need any data of particular date can be searched easily.

2.4 Operating Environment

The software should not have any constraints and barriers. It works only on windows operating system. Before installing this software java tool kit must be installed first. This software should be installed in any drive except C drive otherwise data won't get inserted because Microsoft does not give right to change or modify data in C drive. We can read only data if installed in C drive.

2.5 Design and Implementation Constraints

There is not a lot of constraints as yet .Only one major constraint that we came across making the project is the use of Java at one of the instances in the software. As per the requirement possessed by the company officials , the navigation bar should having zero opacity by the time the cursor isn't moving on the page, once the cursor starts moving the navigation bar is visible .

We have recuperated the problem and have handled it with netbeans features, as no one can see source code of the project because we have converted jar file into executable file.

The implementation constraints are as follows:

1. The software is installed in Dispatch office of Superintendent of Police office in his personal computer.

2. Since there is no page validation the software is vulnerable to attack.

3. The data can be changed from database east her is no security in MS Access.

4. The database has to reach the organization every time with maximum authenticity and with exact information.

2.6 User Documentation

We are only providing the executable file to the organization. We were not bonded to provide the source code of the program that we have written. Since no budgetary is involved we don't hold liable for any further modifications out of our consent.

2.7 Assumptions and Dependencies

1. The software is only made for Bilaspur region.
2. This software is not for selling purpose to other organization as this is also not compulsory because it is not mentioned anywhere.
3. The organization can't holds the necessary structure for future modifications without the help of the developers who are the creator of the software because they are not provided with source code.
4. The organization will only use this for their personal use not for selling purpose.
5. The database used can only be a MS Access database and it cannot be a only document database.

3. External Interface Requirements

3.1 User Interfaces

The user interface model has been kept subtle and simple in order to provide the users with a easier to use interface. The design has been in great accordance to the design specifications proposed to us. We haven't experimented a lot in the design of the project. The obvious reason for this was, there was no such need for doing so.

Moreover we have tried to make the user interface as interactive as possible in order to greet the users with a follies experience of the website.

3.2 Hardware Interfaces

There has been absolutely very few hardware interfaces involved. That only include the current system the user is using. So, the hardware interventions for the project aren't specified.

3.3 Software Interfaces

The following software interfaces have been used to get the software up and running. These are as follows:

1. Java: The main stream code for any software is java. This software is mainly made on java. Each page is designed in netbeans java. All the interface and back coding is done on java.

2. Microsoft Access: Microsoft access is used as database. This contain three database for each section.

a) IG Section has its three table and each table contains eight, five, eight columns respectively for data insertion.
b) Police Headquarter has its three tables and each table contains eight, five and eight columns respectively for data insertion.
c) Public section also contains three tables for data insertion and each table contains five columns respectively.

3. JDBC/ODBC : Java database connectivity and open database connectivity is used to connect the MS access database with java netbeans.

3.4 Communications Interfaces

There is communication from outer world. But updates will be taken for java tool kit. This software is offline where it can be used personally. While printing data then they can be send to others through online or offline mode. As prescribed by organization that the software should be used as offline so that the user can be comfortable while using it. He/she might not feel that the use of software is jolty. There should not be any problem of data connectivity through online.

4. Domain : No

5. System Features (Use Cases)

5.1 Use Case 1

5.1.1 ***Name: IG office***

5.1.2 ***Goal: Taking all inputs correctly if letter number and department is selected***

5.1.3 ***Input: By keyboard or by mouse selecting particular data***

5.1.4 ***Output: Data inserted successfully***

5.1.5 ***Main Scenario: The feature is working fine***

5.1.6 ***Pre-condition: None***

5.1.7 ***Exceptional Scenario 1: None***

5.2 Use Case 2

5.2.1 ***Name: Police Headquarter***

5.2.2 ***Goal: Taking all inputs correctly without any page validations***

5.2.3 ***Input: By keyboard or by mouse selecting particular data***

5.2.4 ***Output: The data is submitted successfully***

5.2.5 ***Main Scenario: The feature is working fine***

5.2.6 ***Pre-condition: None***

5.2.7 ***Exceptional Scenario 1: None***

5.3 Use Case 3

5.3.1 ***Name: Public***

5.3.2 ***Goal: Taking all inputs correctly without any page validations***

5.3.3 ***Input: Inserting data in all fields***

5.3.4 ***Output: The data is submitted successfully***

5.3.5 ***Main Scenario: The feature is working fine***

5.3.6 ***Pre-condition: None***

5.3.7 ***Exceptional Scenario 1: None***

5.4 Use Case 4

5.4.1 ***Name: Search option***

5.4.2 ***Goal: Searching particular letter***

5.4.3 ***Input: letter number or select date***

5.4.4 ***Output: The data of particular letter shown***

5.4.5 ***Main Scenario: The feature is working fine***

5.4.6 ***Pre-condition: None***

5.4.7 ***Exceptional Scenario 1: None***

5.5 Use Case 5

5.5.1 ***Name: Print Section***

5.5.2 ***Goal: print all the paper that user demand***

5.5.3 ***Input: select two between dates***

5.5.4 ***Output: show print preview without any error***

5.5.5 ***Main Scenario: The feature is working fine***

5.5.6 ***Pre-condition: None***

5.5.7 ***Exceptional Scenario 1: None***

6. Other Nonfunctional Requirements

6.1 Performance Requirements

The software is working absolutely fine and is high on performance. The software has been verified with the help of use cases discussed above. There are no high-end performance requirements as proposed to us.

6.2 Safety Requirements

The safety requirements have been taken a great care of. We have made a database with 3 three table each for IG, police headquarter and public separately in order to make database can store data upto 6 GB as each table contains data of 2 GB each.

6.3 Security Requirements

There hasn't been any security threats or concerns proposed by the organization as yet. In case we are presented with any such attributes, we will be working on it in the near future.

6.4 Software Quality Attributes

We have tried to maintain certain standards and hopefully we have achieved great success in doing that. Moreover SP has appricated our work.

Appendix A: Glossary

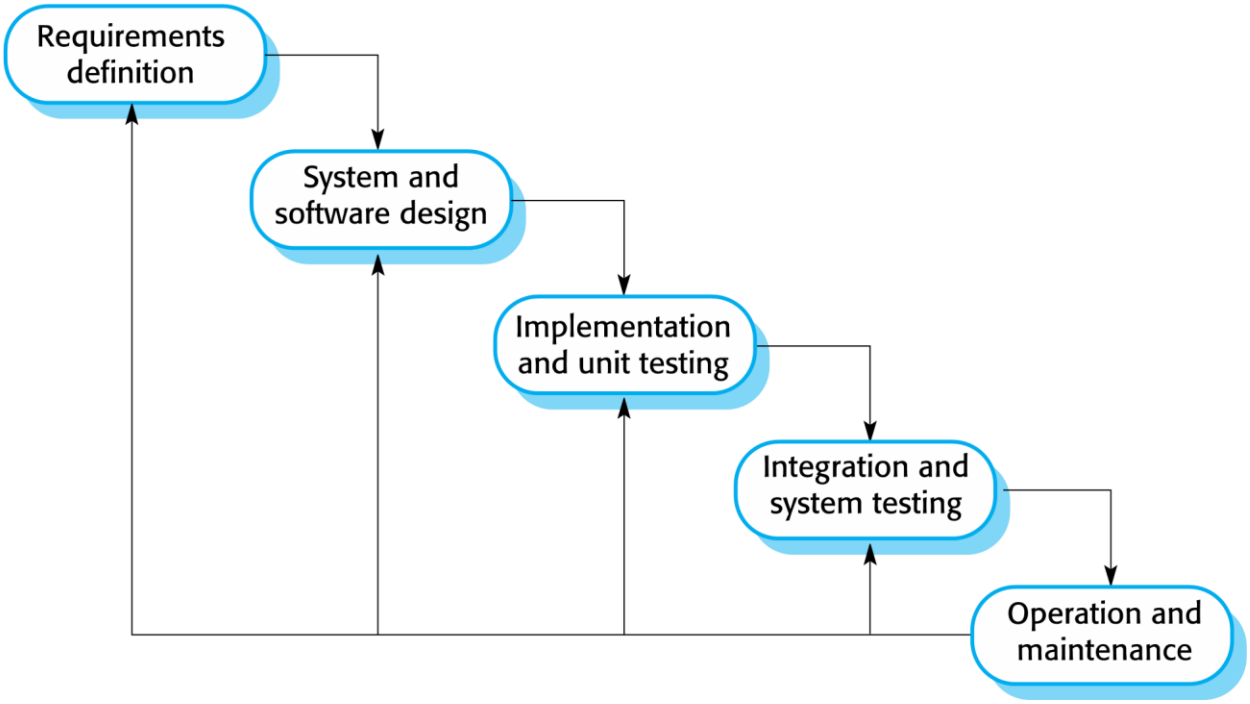
Java Netbeans

MS Access database

JDK 7 Toolkit

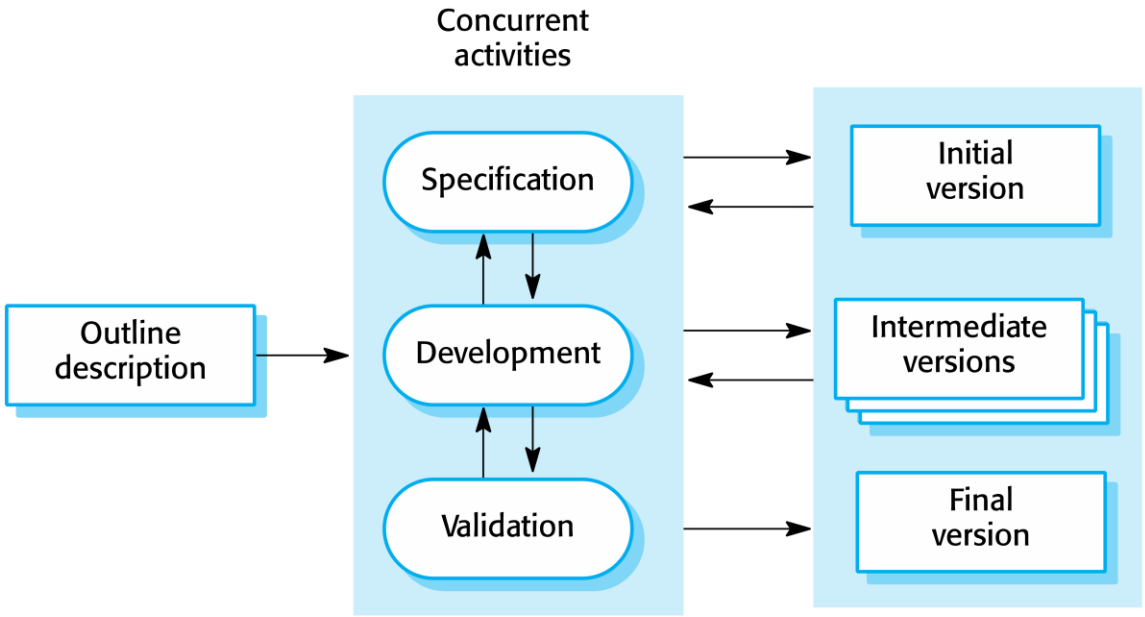
Database connectivity RAR file

Appendix B: Analysis Models

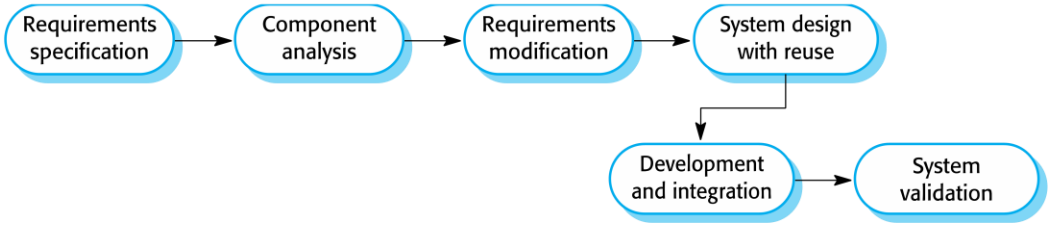


BLUE-PRINT OF OPERATIONS

Specification Model



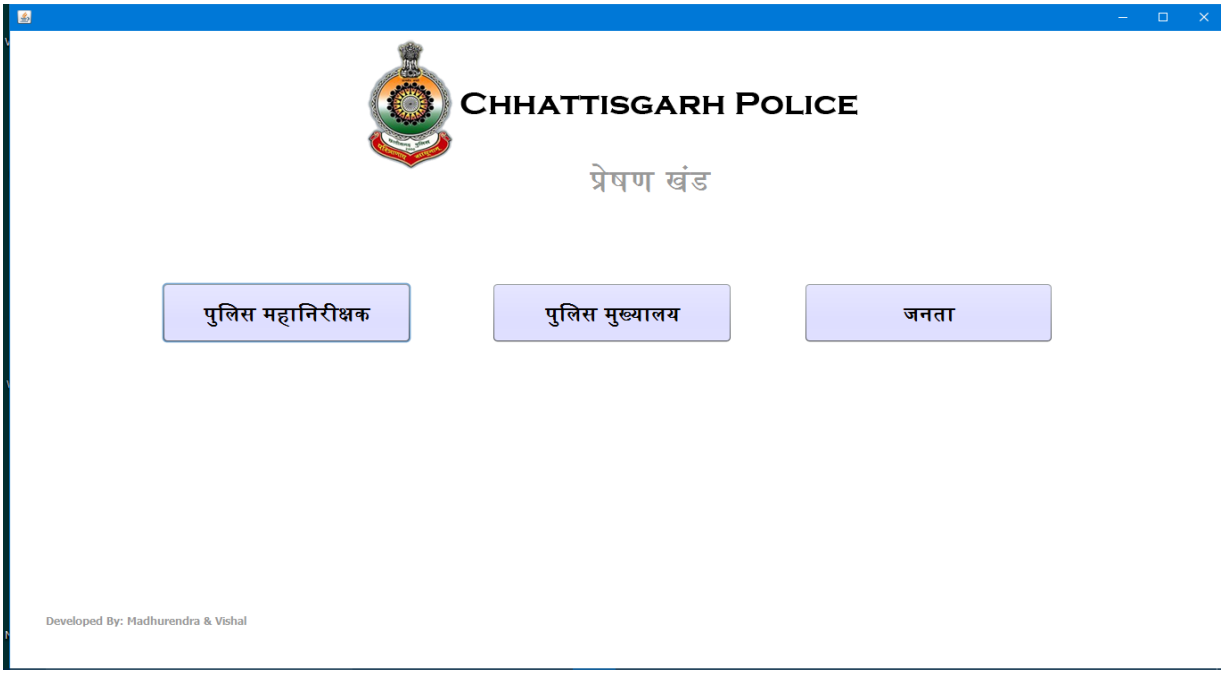
Reuse-oriented software engineering



Appendix C: To Be Determined List

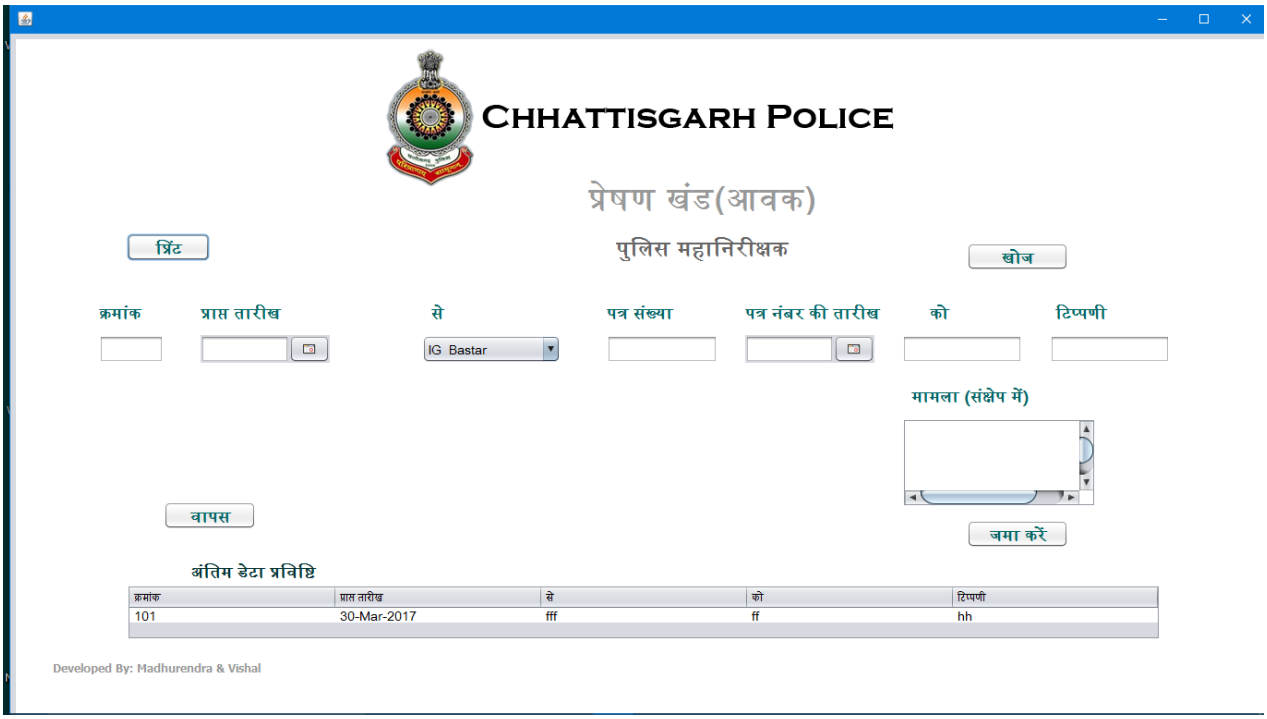
1. The exact time the software will not be considered obsolete.
2. The future of the software is of 100 years if they insert 300 data each day.

The Screen Shots:



Pic:Dispatch Management Home page

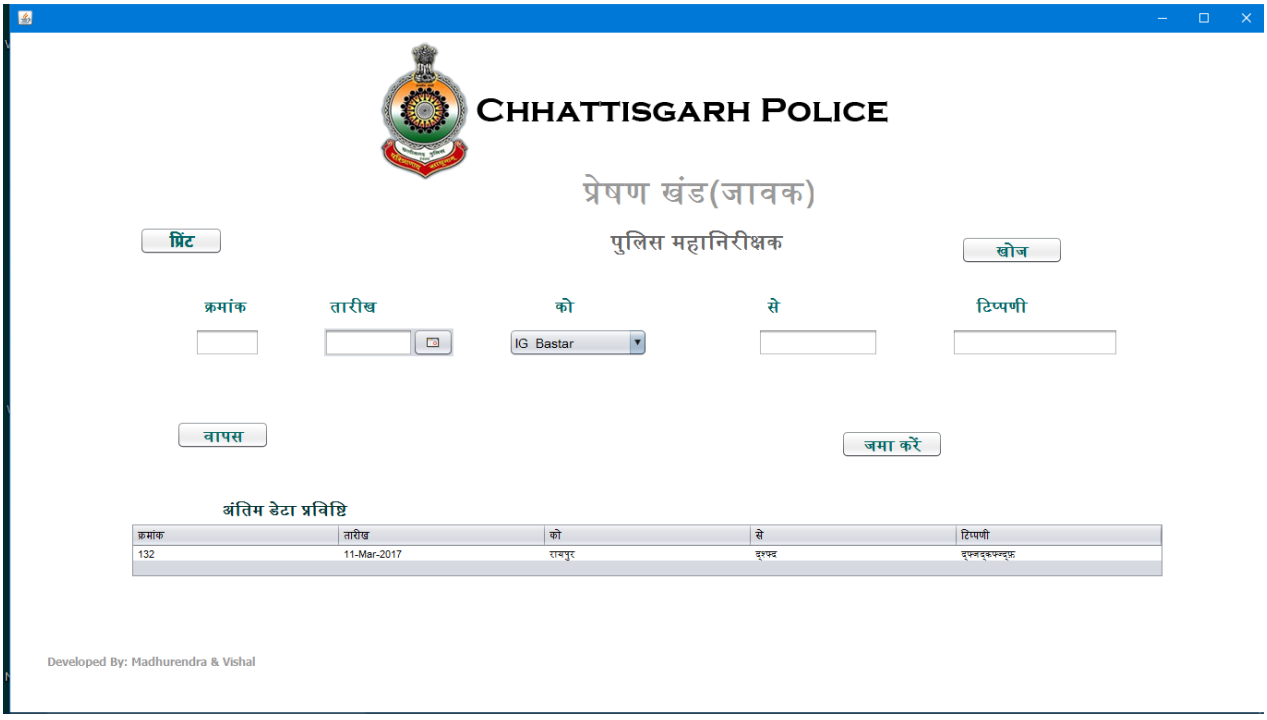
Pic: IG office section (To & From)



Pic: IG office data entry of letter (From Section)

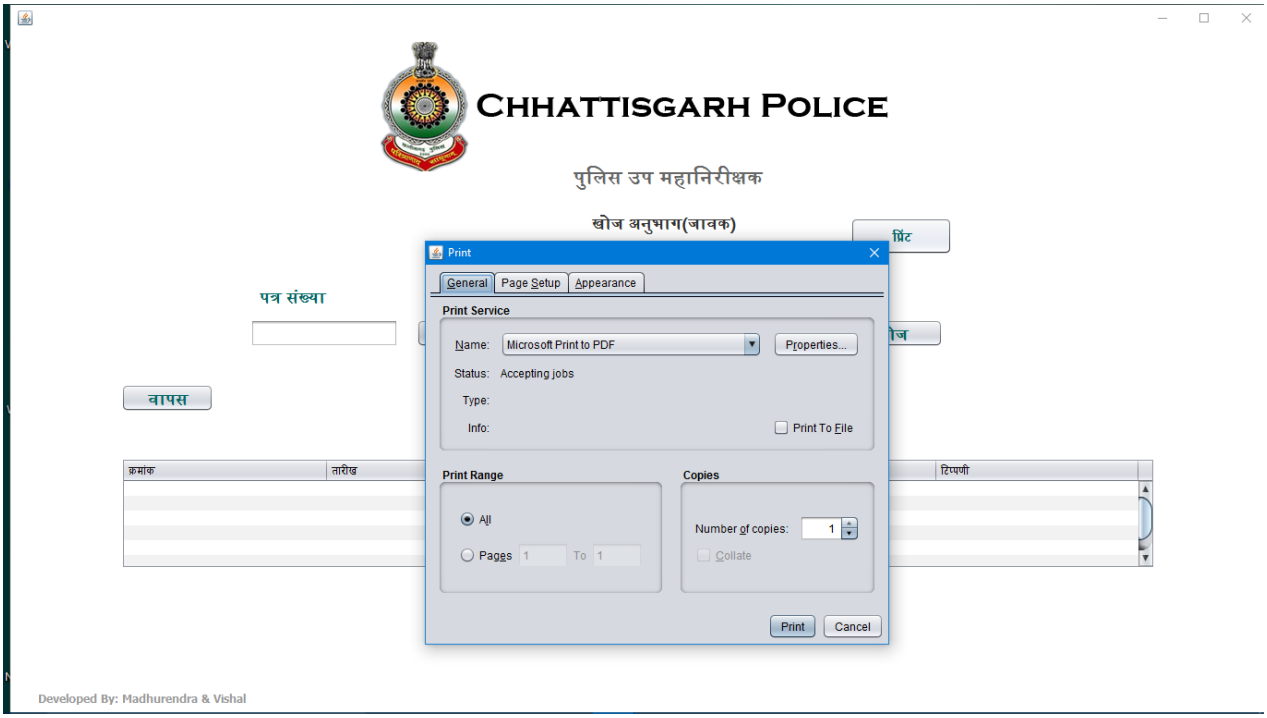
Pic: Search Section of IG office letter (From Section)

Pic: Print Section of IG office letter (From Section)



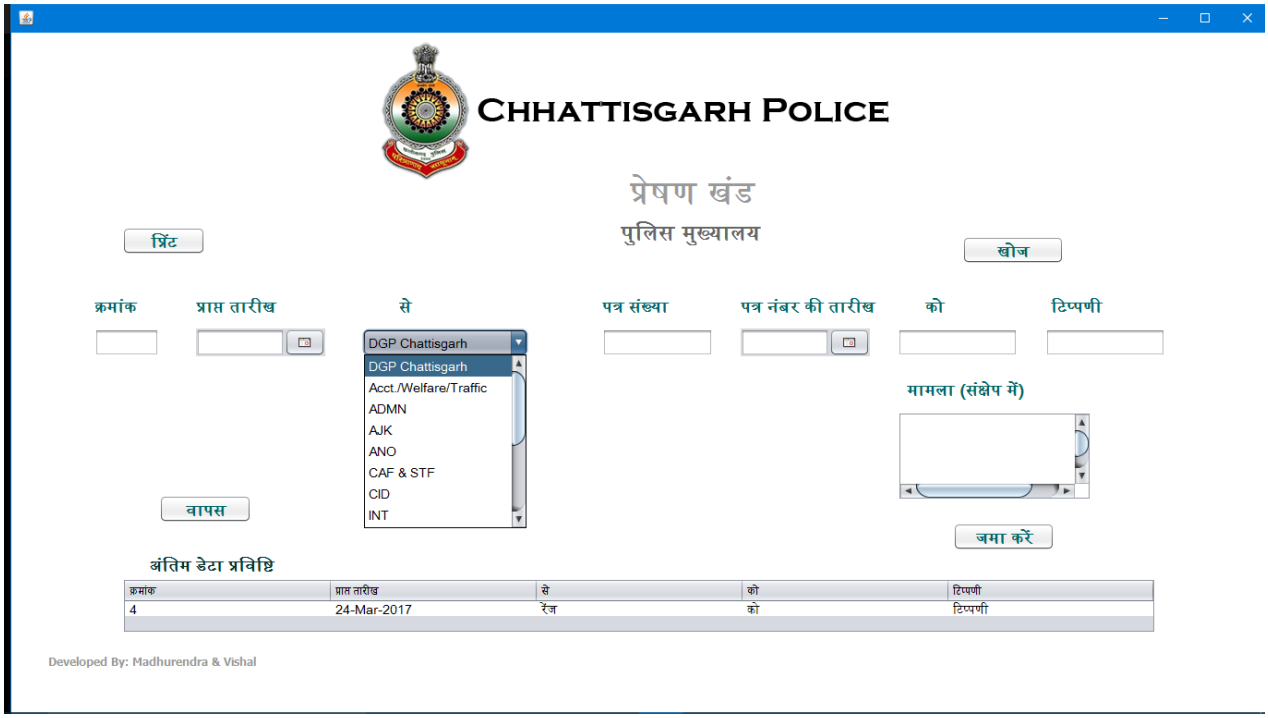
Pic: IG office data entry of letter (To Section)

Pic: Search Section of IG office letter (To Section)



Pic: Print Section of IG office letter (To Section)

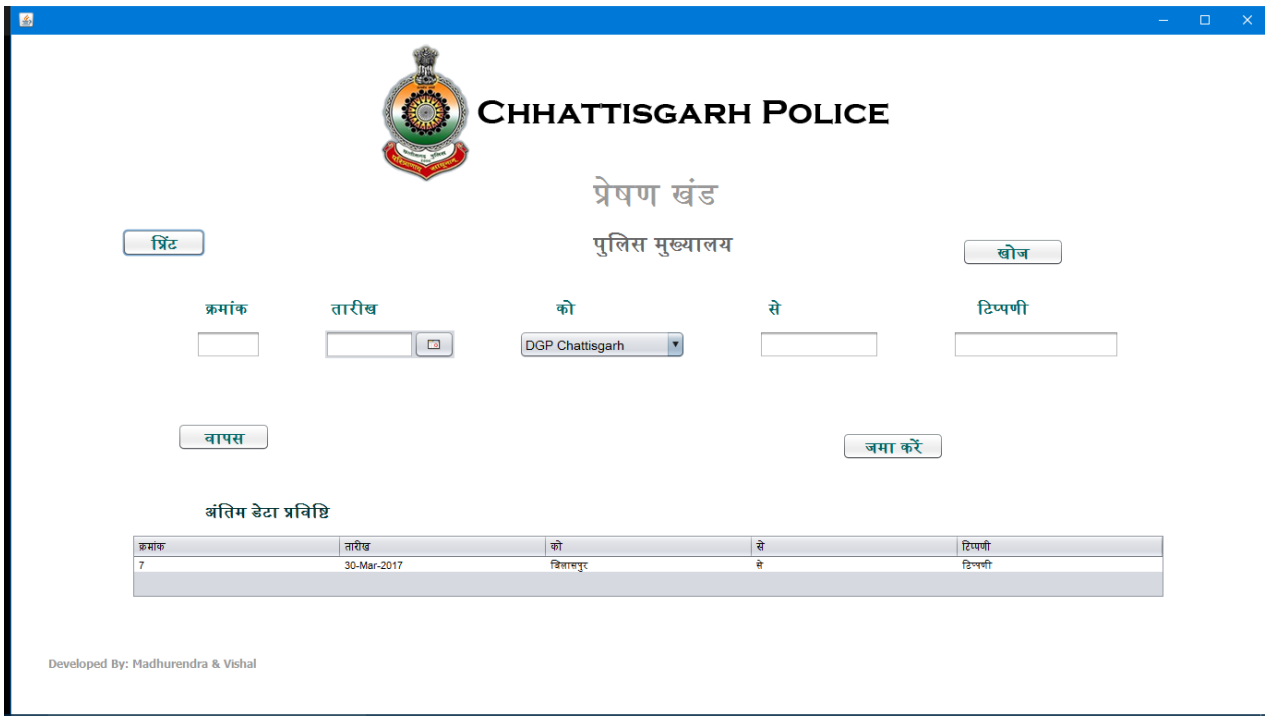
Pic: Police Headquarter section (To & From)



Pic: Police Headquarter data entry of letter (From Section)

Pic: Search Section of Police headquarter letter (From Section)

Pic: Print Section of Police headquarter letter (From Section)

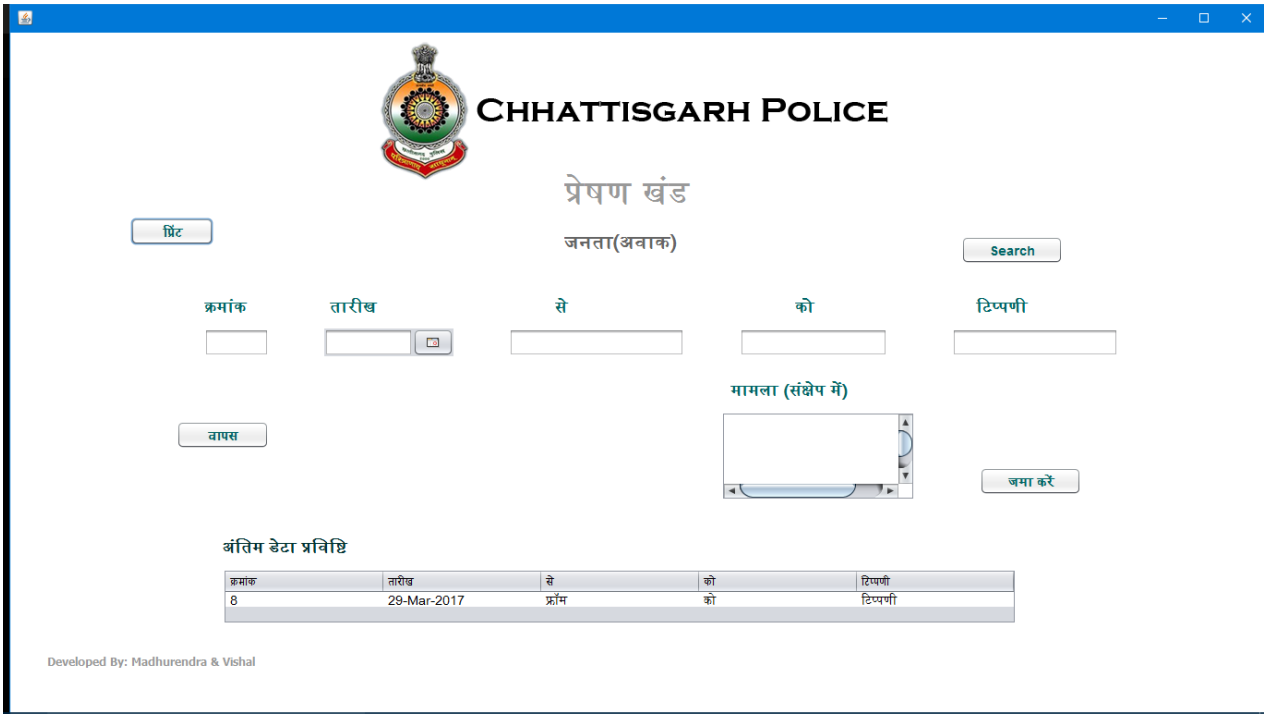


Pic: Police Headquarter data entry of letter (From Section)

Pic: Search Section of Police headquarter letter (To Section)

Pic: Print Section of Police headquarter letter
(To Section)

Pic: Public section (To & From)



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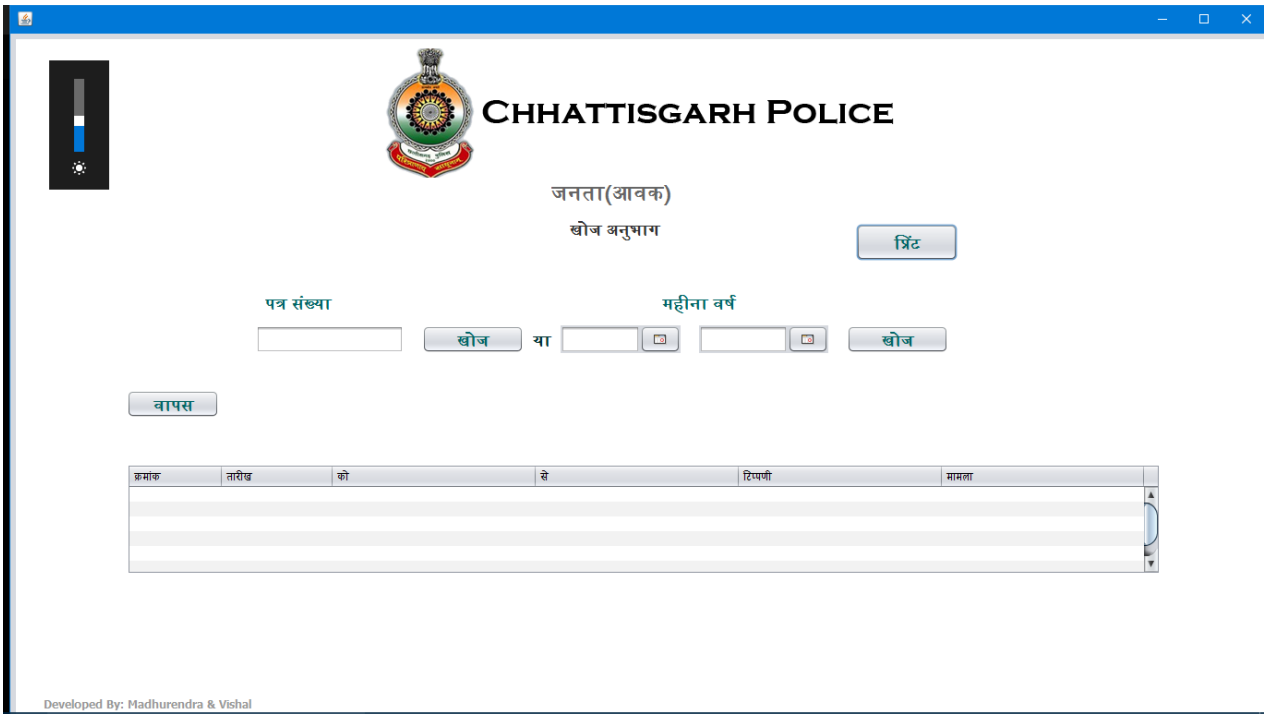
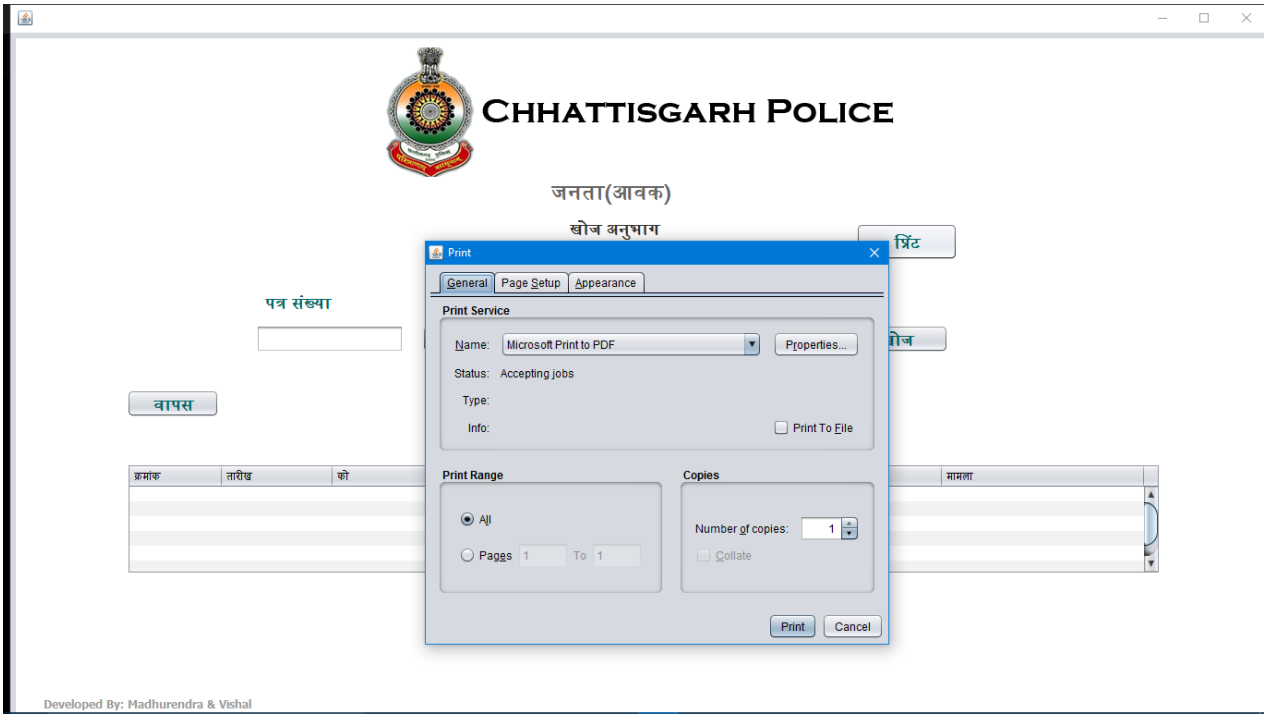
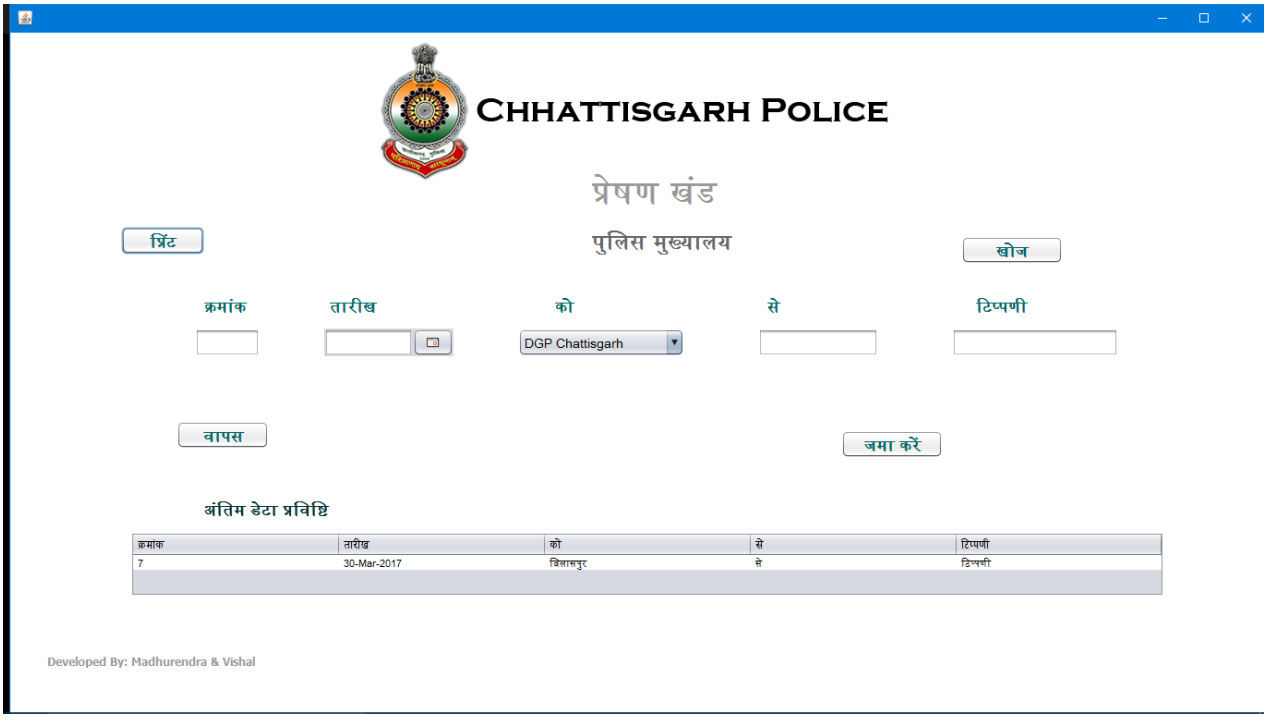


Pic: Search Section of Public letter (From Section)

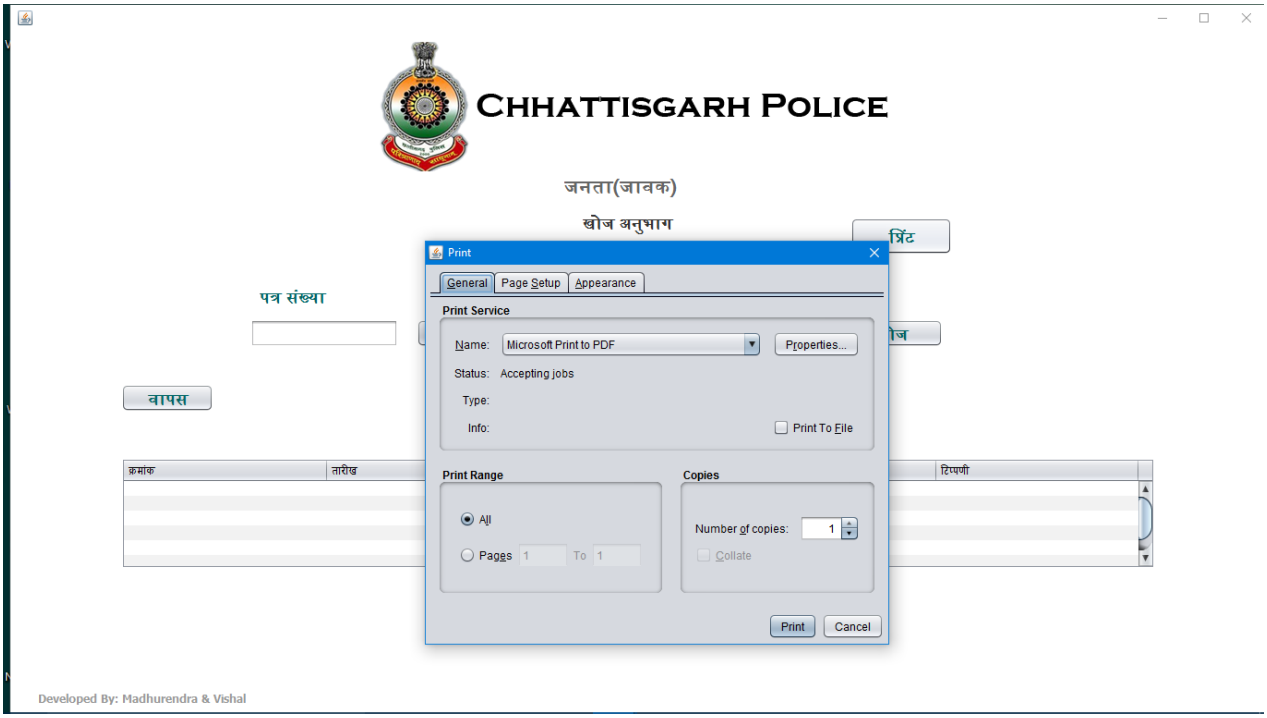


Pic: Print Section of Public letter (From Section)



Pic: Public data entry of letter (To Section)

Pic: Search Section of Public letter (To Section)



Pic: Print Section of Public letter (To Section)

Reference:

- Java complete reference 5th edition
- Thinking in java By Bruce Eckel
- www.Sourceforge.com

Thank you