Development of Information System Classification of Community Complaints Based on Keyword
Case Study: District Pangandaran

Cecep Muhamad Sidik Ramdani\textsuperscript{a,}\textsuperscript{*}, Andi Nur Rachmana\textsuperscript{a}, Jiyad Musyada\textsuperscript{b}

\textsuperscript{a} Department of Information System, Universitas Siliwangi, Tasikmalaya, Indonesia
\textsuperscript{b} Department of Computer Science, Universitas Teknologi Malaysia, Johor Baru, Malaysia

Corresponding author: cecepmuhamad@unsil.ac.id

Abstract — The growing technology of the public complaint system requires the development to solve the problems that exist in Pangandaran Regency. One of the problems is not applying the classification of complaints based on keywords. So that people still have difficulty understanding the functions of government agencies correctly because there are several government agencies that have similar functions. The development of the complaints system can minimize these errors. System development used is the Extremme Programming method which has four frameworks including planning, design, coding and testing, using UML modeling (Unified Modeling Language). Extreme Programming is the development of the previous method, the Agile method. For testing applications using Black Box Testing is done only to observe the results of execution through test data and check the functional of the software. So that the results obtained are classifiers of public complaints that are directly conveyed to the relevant agencies running well.

Keywords — Community Complaints; Community Complaints Information System Development; Extreme Programming

I. INTRODUCTION

Information is very important for every individual and government agency in making decisions. With the development of information technology, every government agency is now expected to be able to convey any information they have quickly and precisely as well as solutions to problems that occur in the midst of society. Public complaints are a form of community participation to take part in developing their environment and as a form of supervision of the performance of government agencies. Complaints and aspirations of the community can be used as input to evaluate policies and regulations that have been made or regulations that have been implemented to find out the problems that exist in society effectively and can provide solutions and solutions.

As a government agency, it must provide comfort to its citizens and provide solutions to various problems that occur in the community in its working area effectively. SKPD is the executor of the executive function that must coordinate so that government administration runs well. The legal basis applicable since 2004 for the formation of SKPD is Article 120 of Law no. 32 of 2004 concerning Regional Government\textsuperscript{[1, 2, 3].}

Pangandaran Regency website is a website that serves as an intermediary for the community with government agencies. On the pangandaran website there are features in the form of news whose validity is guaranteed because those who upload the news are the government agencies themselves, there is also a sharing of events that will be held by government agencies. In addition, there is also a feature for the public to be able to submit complaints or complaints about the performance of a government agency. Complaints from the public will be channeled by Diskominfo to the responsible agencies.

The observation shows that the public still has difficulty understanding the functions of government agencies correctly because there are several government agencies that have similar functions. This will have an impact on the complaint feature of the Pangandaran Regency Communication and Information Office website, where the feature requires the public to fill in the agency purpose of the complaint to be written. To prevent errors in the destination of the agency from writing the complaint, the website directs the complaint
to the Diskominfo admin first, so that the admin will check whether it is true that the intended agency already has a match with the keywords of the agency.

II. MATERIALS AND METHOD

Extreme Programming (XP) is a software development approach or model that tries to simplify the various stages in the development process so that it becomes more adaptive and flexible [3]. Figure 4.1 below is the Extreme Programming framework.

Fig. 1 Extreme Programming Framework [4], [5], [6], [7]

The following below is the framework of the Extreme Programming method:

1. Planning
   This stage begins by collecting the activity needs of a system that allows users to understand the process for the system and get a clear picture of the main features, functionality and desired output. In the development of the public complaint application program at this stage, it starts from identifying problems that arise in the current system, then analyzing user needs for the system to be built [8], [9], [10].

2. Data Collection
   a. Observation
      The data collection method is carried out by means of observation in Pangandaran Regency in the information section it is done with the intention of obtaining information about the research title. The following in Table 1 is a table of problems and solutions [11], [12], [13].

   b. Interview
      The method of collecting data or information is done by asking the information section. The results of interviews conducted with district employees [11], [12], [13].

   c. Literature Study
      The data collection method is carried out by studying various journals regarding public complaint information systems or reading sources and books related or related to the research topic [11], [12], [13].

3. Problem Identification
   There are two things that are done in identifying problems, namely the complaint system does not apply keywords in the content of complaints and complaints are not submitted directly to the relevant [14].

4. Decision Point Identification
   There is a need to develop a complaint system that can classify complaints based on keywords in making complaints and facilitate staff in managing community complaint data in Pangandaran Regency so that the data processing process is faster and more effective [15], [16], [17], [18], [19], [20].

   a. Current System Procedures
      The current system procedure in Pangandaran Regency will be described in the flowchart below.

   b. Proposed System Procedures
      The system development that will be proposed in the Pangandaran Regency complaint information system can be seen in the figure below.

      The system development that will be proposed in the Pangandaran Regency complaint information system can be seen in the figure below.

      In figure III, will show about of Proposed System Procedures. This propose system will make the data very good.

<table>
<thead>
<tr>
<th>TABLE I PROBLEMS AND SOLUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROBLEMS</td>
</tr>
<tr>
<td>From the results of observations that have been made, the problem that occurs in Pangandaran Regency is that the problem of public complaints is online-based but has not implemented classification based on the content of complaints using keywords.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE II CURRENT SYSTEM PROCEDURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>society</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>Start</td>
</tr>
<tr>
<td>Input complaint</td>
</tr>
<tr>
<td>Show Complaint</td>
</tr>
</tbody>
</table>
III. RESULT AND DISCUSSION

A. System Implementation

System implementation is the stage of implementing the system that will be carried out if the system is approved including the program that has been made at the system design stage so that it is ready to operate.

B. Application Interface

The following below are some of the displays in the system created:

1. Home Page

The main page also chooses an important role in a web where the page presents various features starting from news, the latest complaints, and crawling data based on Pangandaran keywords. The following below is a view of the user’s main page.

2. Account Registration Failed

The application program is only intended for the people of Pangandaran Regency, so if there are people who want to make complaints but the data is not in the database, they will not be able to register an account because the system has used name and NIK filters. The failure display will be as shown below.

3. User Login

If the community already has access or an account, they will be able to log in to make complaints against the relevant agencies. For the display can be seen below.

4. Complaint Word Filter

The use of word filters in complaints aims to minimize complaints that are inappropriate to submit. So that the implementation of this system can reduce complaints that are not suitable to be submitted. The following is a display of complaints that contain harsh or inappropriate words.
5. Complaint Sent
Displays all complaints that have been submitted to the relevant agencies. The following below is a display of sent complaints.

6. Login
The display below is access for admin, staff and head of service to enter the application program.

7. Dashboard
The dashboard functions to display a graph of complaint data in the system. The data chosen to be displayed on the dashboard of this system is the complaint data of the service category and the most complaints data by service category.

8. User Data
To monitor users who have made complaints against related agencies. And there are the number of complaints that the user or user has made. The following user data display can be seen in the picture below.

9. Complaint Data
List of complaints that have been submitted by the community. The following below is a list of complaints contained in the Admin system.

10. Staff Complaint Verification
To analyze complaints or find out the truth of complaint data submitted by the community. The following display can be seen below.

11. Admin Complaint Verification
Verification of admin complaints aims to see and check the correctness of validation from staff. The verification will be a reference for making a disposition submission to the head of service.
12. Disposition of Complaint Admin
To approve or reject a public complaint. The following below is a view of the complaint disposition.

13. Head of Service Complaint Disposition
The disposition of the complaint must be approved so that the complaint is followed up immediately. The following is a view of the disposition of the head of service below.

IV. CONCLUSION
Based on the results of the research that has been conducted, the following conclusions can be drawn:

1. The application applies classification based on the content of complaints using keywords, including bpjs, pollution, extortion, and puskesmas. So that 30 complaint data submitted by the community are obtained. So from these results it can be concluded that the applied keywords obtained a total success percentage of 80%.

2. The test performed on this application program is Black Box. Black Box testing itself is a test that is carried out only observing the results of execution through test data and checking the functionality of the software. Some data that can be tested include account lists, user logins, admin logins, staff and service heads, and complaint submission forms. So that the results of testing the overall functionality of the software are successfully executed.

REFERENCES

Application of the UML Framework to the Information Technology Audit at Sambas Polytechnic. JEPIN (Journal of Informatics Education and Research), 7(2), pp.204-209


