Development of Web Mobile Applications Schedule of Village Appearance Task to Improve Community Services

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Abstract. Each Village Device has different tasks and responsibilities and sometimes also has a sudden task, so it takes a task scheduling so that all work can be organized and completed on time. Because of this, the researcher makes an app scheduling the task of mobile village based web apparatus. This application uses the development method of System Development Life Cycle, PHP and MySql programming languages as database. The results of this study indicate that the application of mobile web-based village apparatus scheduling can be applied to help simplify the work of the village apparatus especially in time discipline so as to create effective and efficient to improve the service to the community.

Keywords: scheduling, duties, village apparatus, mobile web

1. Introduction
In Indonesia today there are approximately 74,000 villages scattered throughout the archipelago. According to Law no. 6 the Year 2014 within a village there is a village government or organizers of government affairs and the interests of local communities in the system of government NKRI [1]. In article 23 of Law no. 6 the Year 2014 explained that the Village Government is organized autonomously. Article 25 explains that the Village Government in question is the Village Head assisted by the Village staff [2]. Each Village staff has different tasks and responsibilities. Also, the tasks of the Village Officers have an immediate task, so it takes a task scheduling. Scheduling this task is done so that all the work of the Village Apparatus can be organized and can be completed on time so that the quality of service to the community will increase.

The primary duties of the Village Government Apparatus to improve the quality of public services is to provide public services for the community by including four prisons (excellent service), namely, fast, precise, accurate and qualified [3]. In serving the community the most important thing is timeliness. If the service is excellent and timely, then people will feel satisfied. However, there are still many village government apparatus that have not been able to be on time when serving the community. The quality of public services provided by the Government Apparatus of Teluk Kepayang Village Kusan Hulu Subdistrict of Tanah Bumbu Regency is still not maximal regarding timeliness [4]. This is one example that the Village Government Apparatus has not been able to do its job well. Based on this, a scheduling is required so that the tasks can be well structured and structured.
Other findings created a web-based scheduling application using SDLC development method. The schedule made is changing every week [5]. Research on a web-based facility scheduling application uses several tools such as Macromedia Dreamweaver, PHP Myadmin, MySQL database, XAMPP as an offline server, System Design Sybase Power Designer [6]. Research conducted by Udin Sidik Sidin (2016) produced a Web-Based Subject Scheduling application with waterfall development model using PHP and MySQL Programming Languages [7]. Differences of research conducted by current researchers with previous research are on this research in the design of an application task scheduling village mobile web-based apparatus. The schedule made on this app changes when there is a schedule update, either weekly or monthly.

During this time the village officials only know the latest tasks when they come to the village hall, this can reduce the effectiveness of their work. People are less satisfied with their service because of the ineffectiveness of time to make the completion of the task. This problem solving can be done by making scheduling technically rural apparatus tasks. Over time, human needs of technology are also increasingly high, so the author took the title of "Development of Web Mobile Applications Schedule of Village Appearance Task to Improve Community Services." This research is expected to give impact to all parties both village and community apparatus, especially regarding service and facilitate the village apparatus in improving discipline in work.

2. Literature review

2.1. Application
Application in this study is the application of system design to process data using rules or provisions of a particular programming language. An application is a computer program created to perform and perform the specific task of the user (user). It is a collection of program commands created to perform specific jobs. It is a software that is used for certain purposes, such as processing the docs, arranging windows, and games [8].

2.2. Web mobile
Mobile web is a web or internet website pages that can be used or accessed on mobile devices. Mobile Web is the most accessible platform to learn, the least expensive to produce, standardized, the most available, and the easiest to distribute by Ubiquity principles [9]. Web Mobile is a website designed specifically for mobile devices. Mobile websites often have simple and usually informative designs [10]. So it can be concluded that the mobile web is a web or internet website pages explicitly designed for mobile devices.

2.3. Scheduling
Scheduling is a strategic part of the production planning and control process and is also a regulatory plan and allocation of time and facility resources for each operation to be completed as well as organizing, selecting and timing the use of existing resources to produce output as expected in the expected time [11]. It is a decision-making process that is often done manufacturing industry and industry engaged in service or service [12]. The scheduling is a decision-making process in the arrangement plan of work order and allocation of the time source. Scheduling is something organized to create efficiency and effectiveness in the job.

2.4. Village
According to Big Indonesian Dictionary, the village is a unified territory inhabited by some families with a self-governing system (headed by a village head), or a village is a group of out-of-town homes that are united. Law Number 22 the Year 1999 explains that the definition of the village is a unitary law community that has the authority to regulate and manage the interests of local communities based on local origins and customs that are recognized in the national government system and located in the district area[13].
The village is an area under the district inhabited by some people who have the authority to regulate the interests of the local community. A village head heads the village area, and there is a village government or village apparatus that has the duty and authority of each.

According to Village Law No. 6 of 2014 Article 1 Paragraph 2 Village government or Village, Apparatus is the organizer of government affairs and the interests of local people in the system of government of the Unitary State of the Republic of Indonesia. Nurcholis in Arenawati (2014: 34) explained that the Village Government is the element of the village administration. Village administration consists of the village head and village apparatus [14].

3. Research method

3.1. Data collection

3.1.1. Observation
Observation was a method to collect the data by looking directly at the activities that were running or done by the village apparatus. Starting from the collection of data tasks that were still not regular, data collection tasks were often unexpected and how the implementation of these tasks.

3.1.2. Study Library
Study Library was a method of collecting data in which the data was derived from a variety of documents useful for the analysis pengu [15]. Study Library was done to get the theories from the experts as a guide in the design and implementation of the program.

3.2. Information Systems Development Method
Information system development method was a method used to perform the development of computer-based information system [16]. Information system development method used in this research was the System Development Life Cycle (SDLC). Stages include planning, analysis, system design, system implementation (implementation) [17] while the stage of system maintenance is not done.

3.2.1. Planning Stage
The planning stage aimed to identify and prioritize information systems. At this stage, the problem identification activity was undertaken by the lack of discipline of the village apparatus due to the slow information about the immediate tasks. The creation of a mobile web-based task scheduling application was undertaken to organize the work of the village apparatus. This scheduling application uses PHP programming language, MySql as its database and XAMPP as offline software at the time of making the application. PHP was a scripting programming language that was placed in the web server to build a dynamic website. MySql was one of the database applications used to store data in an application.

3.2.2. Stage Analysis
The stage in which an activity was described from a complete information system into its parts to identify and evaluate problems, opportunities, constraints, and needs, so that proposed improvements can be proposed. The delay of information submitted to the village apparatus resulted in ineffective time resulting in discipline also decreased and poor service to the community. Based on the problem then created a mobile web-based task scheduling application so that the work of the village apparatus can be done properly and effectively.

3.2.3. System Design
Phase after system analysis that determined the process and data required by the new system. The design of the system in this study using Data Flow Diagrams (DFD). This diagram was an overview of
an existing system or a new system developed logically without considering the physical environment in which the data flows. This diagram can make the user understand the running system.

3.2.4. Implementation
Implementation was the stage where the design of the system had been formed into a code ready to be operated, but before it will be tested the application. Testing this application using black box testing method by giving input to the system that has been running and observing the output.

3.3. Research Flow
The research flow was the frame of mind that the author arranges in conducting research. The following was a flowchart in making mobile web apps scheduling the task of the village apparatus.

![Flowchart flow research](image)

**Figure 1.** Flowchart flow research

This research started from a system planning. At this stage, the problem identification activity was undertaken by the lack of discipline of the village apparatus due to the slow information about the immediate tasks. Based on existing problems then the researchers make a plan that was making a mobile web-based application development for the task of the village apparatus. After doing the planning of the researcher analyze the need to be used that was XAMPP as offline software at the time of the making of the application, PHP as a programming language and MySql as a database. Taking and collecting data was done after requirement analysis was seen, the data used was relevant data and related to research done. If the data was not complete then the data was retrieved, after complete data was done in a system design using DFD diagram. Then create the application by encoding. If the coding was complete, the application was tested, the researcher used a black box method. If the
application was not running then do the repair but if the road application then ready for implementation.

4. Discussion

4.1. Information System Design

Based on the analysis system that had been done can be known what the input system, output system, methods used, and interfaces to be created, so that will be made by what was expected. Research used system design with DFD which was divided into three levels namely context diagram and DFD Level 0 and DFD Level 1.

4.1.1. Designing Context Diagram

Context diagram describes a circle that can represent the entire process contained in a system. This diagram was the highest level of DFD.

![Figure 2. Context diagram application of village apparatus task scheduling](image-url)

4.1.2. DFD Level 0

DFD level 0 describes two entities that enter into two processes so that the entity gets the output of a data table.
1.0 Application of Village Apparatus Task Scheduling

2.0 Task Data

Figure 3. DFD level 0

4.1.3. DFD Level 1
DFD level 1 describes processes 1.0 and 2.0, this process was done by the admin, but in addition to the admin, the village apparatus also get the output of a task table.

Figure 4. DFD level 1

4.2. Research Analysis
Analysis of the results of this study was conducted to determine whether the application can be used or not. According to data obtained from dividing questioner to 20 people, more than 80% of people understand this application. Thus, it can be concluded that the output and application of task
scheduling that was designed had been in accordance with the expected, so it can be concluded that the design of the application scheduling task of the village apparatus was successful.

5. Conclusion
Based on the analysis of research results, then the conclusion that can be taken is the application of mobile apparatus task-based mobile web village was using the programming language PHP and MySql as the database. System testing was done by black box method that aimed to ensure that the system was made to work correctly and not error. From the results of experiments conducted, shows that the application of mobile web-based village apparatus scheduling tasks can be applied to help simplify the work of the village apparatus especially in the time discipline to create the effectiveness and efficiency to improve the service to the community.

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