Design and Application Data Collection for integrated evaluation and monitoring

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Abstract. The process of data collection of tax subjects and objects at the Regional Revenue Agency (BAPENDA) of Sumbawa Regency is still manual, where the subject and tax object data are still managed in the form of records on bookkeeping media and office application office media applications such as Microsoft Excel. The need for an application design as a form of digitizing a manual process in the governance system to improve the effectiveness and efficiency of the agency. The research aims to develop Tax Object Subject Data Collection Applications. The application is built with Web-based programming, using the PHP Programming Language and Sublime Text as Tools Editor and MySQL as a data storage medium. The application built can present data collection features related to tax object subject data such as companies, restaurants, hotels, parking and ground water data and can display reports in the form of data related to tax object and object data collection to facilitate the monitoring process in BAPENDA Sumbawa Regency.

1. Introduction
Every community residing in a country will certainly deal with taxes, because taxes are an asset for a country. Tax subjects and objects are a term in the taxation laws for individuals (individuals) or organizations (groups). The tax subject can be interpreted as the person the law addresses to be taxed. While the tax object can be interpreted as a tax target and the basis for calculating the tax owed [1] [2].

In the Regional Revenue Agency (BAPENDA) of Sumbawa Regency the taxpayer's data collection system is still manual in which the data collection of tax subjects and objects is still managed in the form of record keeping in the accounting media and office application media such as Microsoft Excel, this can cause inconsistent data if there are changes because the data has not been digitally integrated. In addition, in terms of making subject data and tax object reports require a long time because they have to ensure that the data is correct in the validation process in paper media and data in Microsoft Excel, this is what makes the information system ineffective and inefficient [3].

From the above problems, an application was designed as a form of digitizing the manual process in the governance system to increase the effectiveness and efficiency in the field of Taxable Objects and Objects of Sumbawa Regency BAPENDA. Tax subject and object data presented in digital form simplifies the process of managing tax subject and object data and information both in the input, edit, delete data, and search and reporting processes as a result of integrated evaluation and monitoring.
2. Methods
The method in this study uses the software development method Prototype Models [4].

Figure 1 is a stage in Prototype Models, which consists of stages:

a. Communication, namely an analysis of the needs of users in this stage can make observations and interviews.

b. Rapid application planning related to the technology used and the data that will be used in the application.

c. Modeling, namely making application modeling, making database models including application display models.

d. Making prototype by coding to build applications from the design model that has been built in the previous stage.

e. Submission of Applications to test and repair prototypes of the Application correctly so that it can be used by users.

3. Results and Discussion

3.1. Communication
At this stage, the observation and interview process was carried out on the Head of Taxable BAPPENDA Subject and Object Areas in Sumbawa Regency, namely Mr. Usman, MM, where the communication results were obtained that the tax object subject data collection process was still ineffective because the data obtained were still recorded and stored manually through bookkeeping media and Microsoft excel device media. This will cause inconsistent data if there is a change because the data has not been digitally integrated. In addition, in terms of making the subject of the tax object data report requires quite a long time because they have to ascertain whether the data is correct in the validation process.

3.2. Application Planning
At this stage the technology planning that has been used is using the PHP Programming Language and database using MySQL [4] [6]. As for data planning, use data from the Subject Form and Object of Taxation of the Sumbawa Regency BAPENDA.

3.3. Application Modelling
At this stage object-oriented modeling is used with the Unified Modeling Language (UML) [7]. Following are the application modeling steps:
a. Use Case Diagram

![Use Case Diagram](image1)

**Figure 2.** Use Case Diagram

b. Activity Diagram

Activity Diagram follows are Tax Subject and Object for Restaurant:

**Figure 3.** Activity Diagram for Tax Subject and Object Restaurant

c. Sequence Diagram

Following are the Sequence Diagram on Tax Subject and Object for Restaurant:
d. Class Diagram
Following are the Class Diagrams in the application:

3.4. Prototype Making
This stage is changing the modeling into the program code so that it produces the following Application implementation, namely: Login Page, Main Page and Restaurant Data Page
3.5. Submission of Application
Before submitting the prototype application to BAPENDA, Sumbawa Regency, testing is done first using Black Box Testing [8]. The test results are as follows:

| Input Data | Which is Expected | Observation | Conclusion |
|------------|-------------------|-------------|------------|
| Enter your username and password | If successful it will enter into the dashboard menu | Successfully entered the dashboard menu | Succeed |

| Input Data | Which is Expected | Observation | Conclusion |
|------------|-------------------|-------------|------------|
| Enter data related to the subject of the restaurant, then press the save button, edit, delete | Data will be saved and appear in the table, if you press the delete button it will be deleted and if editing will change | Data successfully appeared in the table, successfully deleted and changed data | Succeed |

4. Conclusion
Application of Tax Object Subjects at Sumbawa Regency BAPENDA has been completed using PHP and MySQL programming languages as the database. Applications that have been tested can present data collection features related to tax object subject data such as companies, restaurants, hotels, parking and groundwater data and can display reports in the form of charts related to data collection of subjects and tax objects. With this application, the process of monitoring and evaluating the subject data and tax objects in the Sumbawa Regency BAPENDA is more effective and efficient.

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