

# Analyzing and Designing Binus International School Serpong School Information System with Web-based Technology

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*Abstract* — The purpose of analyzing and designing in this internship is to design a web-based application in order to ease every aspects related to learning and teaching activities in Binus International School Serpong, especially when it comes to creating or adding session and schedule according to existing schedule in each semester. The research method used in the preparation of this internship are literature study and design. The method of literature study carried out by searching on internet or book references to gather information needed. While the waterfall method that consists of five steps, Requirements, Design, Implementation, Verification, and Maintenance is used to design. The result of this design is an application that can simplify session, schedule, and other related data inputing. The conclusion of this internship is that the application can help the staffs of Binus International School Serpong in arranging schedule based on the session that have been made in accordance with the existing education level thus avoiding errors that may occurred when the filling is still done manually.

Keyword

*Application, Web, Semester, Session, Schedule*

## I. INTRODUCTION

Binus International School located in Serpong and Simprug each has its own system running in a distributed manner. It would be nice if both systems are owned by their respective schools are integrated with one another. And the website for the International School Serpong Binus is made with the intention to support the stability and effectiveness of the desired new system, which can be integrated with both the

property website Simprug Binus International School. In addition, by adding new feature such as Structured Day that will be useful for scheduling system.

### Objectives:

1. Studying the regulatory system schedule school processes of teaching and learning activities, such as the Binus International School.
2. Finding the existing problems in the system setting a study plan and find solutions.
3. Leveraging web database [1] technology to facilitate the schedule control system at Binus International School.
4. Designing a new regulatory system that schedules using web technology to support teaching and learning processes that exist or that are running.
5. Helping ease the process of learning and teaching schedule at Binus International School to help raise school quality.

### Benefits:

1. The existence of a draft schedule of the new regulatory system that has better performance.
2. Create a school schedule control system easier, save time, minimal errors, and comfortable.

### Problems faced:

Based on the analysis of the issue above, so we can find problems with the system running, among others:

- 1) Website for both Binus International School Serpong and Simprug are not integrated with one another
- 2) Computerized scheduling system that's not maximized

## II. METHOD

The study begins by collecting data by:

### 1. Analysis Method

- Survey of ongoing system  
Data collection techniques and information directly from the project, carried out by conducting interviews or interviews and discussions directly with the parts

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that are involved in the project to obtain the necessary data.

- Analysis of survey findings  
Conducting an analysis of survey results have been obtained to find the weaknesses and problems found on systems running.
- Identify information needs  
Identify the system requirements necessary for the development of LMS.
- Identify system requirements  
Identify the system requirements needed to design a system that is expected.

**2. Design Methods**

- Making Entity Relation Diagram (ERD) [2]
- Making Class Diagram [3]
- Making Use Case Diagram [4]
- Making Data Flow Diagram (DFD) [5]
- Making View Model (Design Screen + Navigation Diagram) [3],[6],[7]

**3. Methods Study Library**

The methodology of collecting data obtained from literature by reading literature books and other articles related to existing problems.

So design by Pressman [3],[5] and the ERD [2] formed:

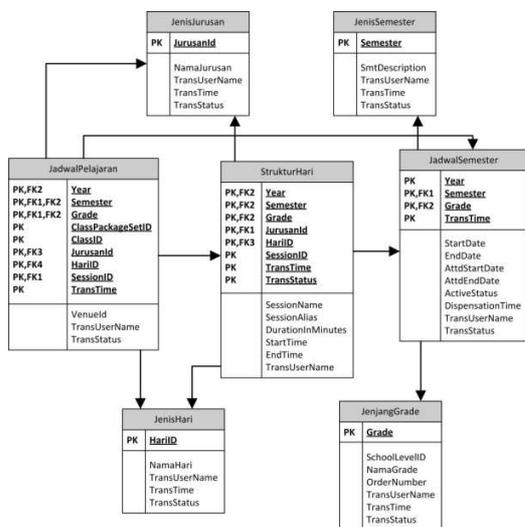


Figure 1 ERD

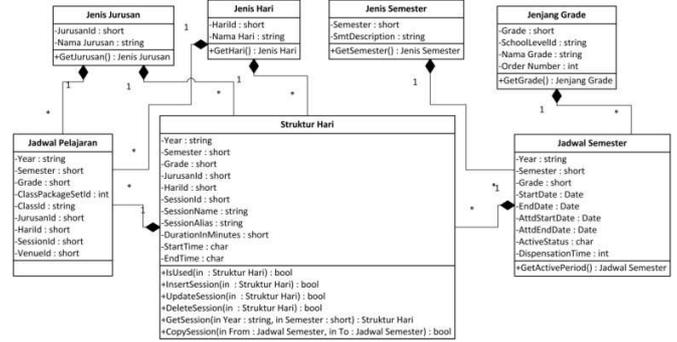


Figure 2 Class Diagram

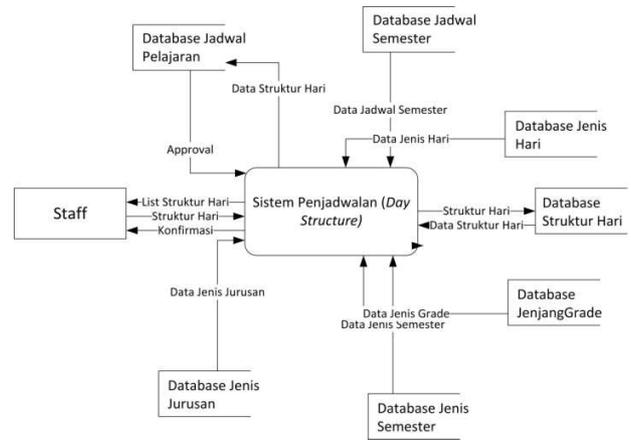


Figure 3 DFD

**III. RESULT**

Day Structure applications that can be accessed from <http://serpong.binus-school.net/staffdesk>. At the site accessed via the menu Day Structure.

**IV. CONCLUSIONS AND RECOMMENDATIONS**

Based on the description of the Day Structure discussion that has been presented in previous chapters, the conclusion can be drawn that the use of School Information System on Binus International School will increase the efficiency of time, cost, and human resources and reduce the error rate due to human factors. This system will assist in setting learning schedule which actually is the core of schooling itself.

Based on the conclusion above, there is a suggestion that may be filed for the system to work well for effectiveness in the implementation and further development is presumably the system we have developed this to be a reference and foundation for further development. It is expected that other programmers, will be able to further develop and maximize the application to other units.

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