

---

## WEB-BASED RESEARCH FACILITIES INFORMATION SYSTEM DESIGN USING LINEAR SEQUENTIAL METHOD

Falaah Abdussalaam, Cahyadi Agustin

*Informatics Management, Piksi Ganesha Polytechnic, Bandung, Indonesia*

---

### Abstract

This research was aimed at knowing the current information system of research facilities at LIPI Bandung Geotechnology Research Center, to find out the problems facing, and to know how to cope these problems. Based on the research results, it turns out that the problems of these systems are processing research facilities data at LIPI Bandung Geotechnology Research Center is still not efficient, where data processing is still manual. To resolve these problems, therefore, a new research facilities information system design with an integrated database was needed to simplify the process of managing data that can be accessed anytime and anywhere, so that the report needed to be faster, complete, and precise. The method of this information system design was using the object oriented with the UML (Unified Modeling Language) and implemented to Web Programming language and MySQL as databases. Linear Sequential was used as for the software development. The suggestions given: 1) organizing training on the procedures for the use of the new system, and 2) performing regular maintenance so as not to damage.

**Keywords:** Analysis and Design Systems, Object Oriented, UML, Linear Sequential, Research Facilities

---

### Introduction

LIPI Geotechnology Research Center is an institution under the auspices of the Indonesian Science Council and the National Research Affairs Council which is tasked with conducting research in the field of geotechnology and becoming a trusted research institution that plays a role in providing solutions to problems in the field of geotechnology.

Technology is currently developing very rapidly and can provide convenience for users in the process of information management, technology will be very helpful in processing data, getting information easily and quickly in making decisions.

Management of research facilities at the LIPI Geotechnology Research Center is currently still running manually, as a step in problem solving and providing research facilities services including the use and borrowing of research equipment or laboratories at the LIPI Geotechnology Research Center and implementing ISO Certification No:103-059-9-13 from the National Accreditation Committee, required a new research facilities information system design with an integrated database was needed to simplify the process of managing data that can be accessed anytime and anywhere, so that the report needed to be faster, complete, and precise.

### Main Problem

Based on the author's observation, there are still data management problems which happen in LIPI Bandung, including:

1. Research facilities management system that is currently running at the LIPI Bandung Geotechnology Research Center is still done manually using paperbase for the various form fields.
2. Management of research facilities data has not been integrated with the database causing difficulty in finding data, prone to redundancies, loss and inconsistency of data.
3. Verification of research facilities submissions are very dependent on the leader who must be there.
4. Preparation of reports on research facilities is still not effective.

### Objective Study