



Development of Web-Based Information and Publication Systems in Support of the Innovation Space of the Faculty of Education Malang State University

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Abstract

The development of web-based information technology has provided great opportunities for educational institutions to improve the quality of their services, publications, and academic innovation. This study aims to develop a web-based information system at the Faculty of Education, State University of Malang (FIP UM) as a medium for publishing academic and non-academic innovations. The development model used is ADDIE (Analysis, Design, Development, Implementation, Evaluation). The results of the study show that the information system that was built is capable of facilitating the management of innovation work data in a structured, transparent, and easily accessible manner. The developed website displays categories of innovation products, complete descriptions of the works, data upload facilities, and download access from each department. Initial trials show that the system is responsive and compatible with various devices, although the completeness of the content is still limited because the data input process between departments is not yet optimal. These findings indicate that the presence of a web-based information system can expand access to publications, strengthen the faculty's image, and create an inclusive digital innovation space to support the development of science and community empowerment.

Keywords: academic publications, innovation space, web-based information systems.

1. Introduction

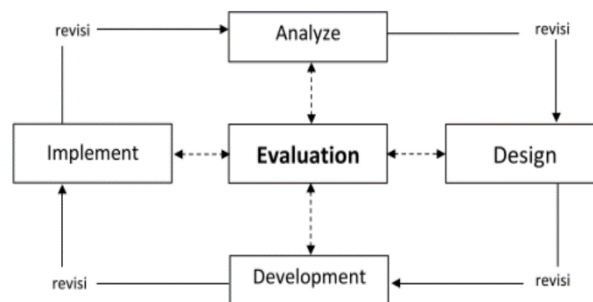
Web-based information systems are applications that support data management and presentation, static communication, and dynamic transactions without space and time limitations (Laugi, 2018). This technology has been widely used in the government (Ariyadi & Bahar, 2017) (Tabuni & Priyantoro, 2019), health (Destiningrum & Adrian, 2017) (Hormansyah & Utama, 2018), education (Nasution, & Mulyono, 2019) (Sonia, 2020), and other public services sectors (Tiara et al., 2017). Hendriawati (2017) states that the use of adequate information technology-based innovations can change the way educational institutions carry out their duties to be faster, more effective, and more productive. In the digital era, the development of information technology also opens up great opportunities for educational institutions to improve services and carry out academic innovations.

An innovation space is a concept that refers to an ecosystem that supports the creation of new ideas, collaboration between individuals, and the development of creative solutions. According to Baregheh, Rowley, and Sambrook (2009), innovation is an important element in the development of educational institutions, as it contributes to improving the quality of education and competitiveness. Higher education institutions are places for developing culture, technology, and science. Therefore, they must make the best use of technology to support the main objectives of higher education. One element that must be considered is effective information management and publication, especially in faculties, which are

strategically responsible for building the image of the institution. The Faculty of Education at Malang State University (FIP UM) is one of the faculties that has great potential in creating academic and non-academic innovations. However, the challenge is how these innovations can be widely known by the community, both on and off campus. Currently, the dissemination of information and publication of faculty activities is still carried out conventionally, such as through posters, brochures, or non-integrated social media. This results in limited information reach, a lack of systematic documentation, and minimal efficiency in data management and publication. The presence of a web-based information and publication system can be a solution to address these challenges. A web-based system allows for structured, transparent, and easily accessible information management for various parties. Through this platform, the innovation space at FIP UM can be optimally supported, both in terms of activity promotion, scientific publication, and the delivery of other academic information.

2. Method

The ADDIE model (Analysis, Design, Development, Implementation, Evaluation) is a framework used to design and develop systematic and effective systems. This approach is widely applied in information system development, including in this study. The following are the steps for applying the ADDIE model to the development of web-based information systems and publications at the Faculty of Education, State University of Malang:



2.1. Analysis

Results can be presented in graph, table, or descriptive form. Loading tables and figures should contain only essential information from research results. Analysis and interpretation of these results is necessary before they are discussed.

2.2. Design

Results can be presented in graph, table, or descriptive form. Loading tables and figures should contain only essential information from research results. Analysis and interpretation of these results is necessary before they are discussed.

2.3. Development

Building a web-based system with programming (HTML, CSS, JavaScript, framework), database creation, and internal testing to ensure it matches the design.

2.4. Implementation

Integrating the system into the faculty through user training, trials, and full launch into daily operations.

2.5. Evaluation

Conducting formative and summative evaluations, as well as collecting user feedback to measure the effectiveness of the system and make further improvements.

3. Results and Discussion

3.1 Result

The analysis stage is conducted to identify user needs for a platform for storing and publishing scientific works and research and community service products. At this stage, user needs are identified for a platform capable of displaying and documenting various research products or works from each department in a single integrated system.

The design stage produces the content structure, user interface (UI), and user interaction flow (UX) designs. The website is designed with the following main components:

-Main Page titled Faculty of Education Innovation Works, which displays a list of innovation products.



Figure 1. Front Page Display

- Navigation Menu in the form of filters based on department and product category.
- Product Page containing the product name, thumbnail, and access to the full description.
- Product Details Page displaying the title, image, description, work file, and owner identity.
- Product Upload Form for admins/uploaders, complete with product metadata, owner identity, and supporting files (images, videos, e-books, external links, or applications).

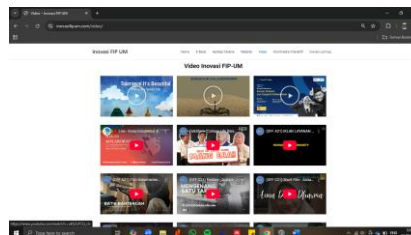


Figure 1. Produk Inovasi

The website was developed based on a design that was created using web programming technology to support back-end functions and a visual prototype designed with Figma. The database structure was designed relationally to facilitate product data input, storage, and grouping.

The main features that have been successfully built include:

- A main page displaying categories of innovative products from various departments,
- A list of products with basic information such as names and images,
- A page with complete product descriptions, including files of the works and the identities of their owners,

-A facility for users to download products.

Technically, the system can be run through a web browser and functions according to the initial design, although product data entry is still ongoing due to incomplete data verification in each department.

During the initial implementation phase, the website was tested by department representatives. The test results showed that the system was responsive and compatible with various devices, including computers, laptops, and smartphones. The category filter feature worked well in facilitating the search for innovative products, while the admin input form was able to store data in the database properly. However, a constraint was found in that not all products from each department were available in their entirety. This indicates that although the website is ready for operational use, the content still requires further filling.

3.2 Discussion

This study shows that the development of a web-based information system has been able to meet the needs of the Faculty of Education in providing a means of publishing innovative works. The presence of this platform not only expands the accessibility of academic products and strengthens the faculty's image as an institution that is active in the development of science, but also contributes to the formation of a digital ecosystem that supports the creation of an innovation space in the higher education environment. In line with Kotler and Keller's (2016) research, effective publications must be able to reach a wider audience in an efficient and interesting way. Educational institutions, including faculties, can utilize digital media to publish various activities, such as seminars, research results, and innovation programs. Thus, web-based digital publications not only serve as a communication tool but also as a branding medium that strengthens the institution's identity in society.

From a technical perspective, the designed system has proven to function well, be responsive, and have a user-friendly interface. Key features such as the search menu, data upload, and work download function as designed, thereby facilitating the documentation and dissemination of innovative works in a more structured manner. The existence of this platform allows works from various departments to not only be documented systematically but also published more widely. This condition encourages the formation of an inclusive innovation space, where lecturers, students, and the community can access, utilize, and be inspired to produce new innovations.

The results of the implementation show that the system is capable of facilitating information between users and content owners, although there are still limitations in terms of content completeness due to the incomplete input process. These findings indicate that although the technical aspects of the system are ready, managerial aspects and interdepartmental coordination still need to be strengthened so that content filling can run more optimally. Therefore, collaborative strategies, increased participation of the academic community, and the application of a more systematic verification mechanism are needed to ensure the sustainability of the system.

Overall, this web-based information system has significant potential as an instrument to support the publication of innovative works and the development of innovation spaces within the faculty. The platform's function is not limited to being a

digital repository, but also serves as a vehicle for the exchange of ideas, the expansion of academic networks, and the strengthening of the faculty's contribution to the development of science and community empowerment through innovation.

4. Conclusion

The development of a web-based information system at the Faculty of Education, State University of Malang (FIP UM) is able to respond to the need for publishing innovative works in a more effective, structured, and easily accessible manner. This platform not only functions as a digital repository but also as a branding medium and a means of building an inclusive innovation space for lecturers, students, and the community. Overall, the presence of this system has great potential in expanding the dissemination of innovative works, strengthening the faculty's image, and supporting the development of science and community service through digital technology.

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