FRIDA: A Comprehensive Colloquium Module for Field Work Practice Administration in IPB College of Vocational Studies

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Abstract. Field Work Practice or Internship is a systematic effort carried out by the vocational higher education providers, preparing students to assess the competencies mastered in order to achieve certain attitudes, knowledge, skills, or expertise. There are numerous administrative activities involving four parties simultaneously, which can lead to various problems. Among these issues are students submitting forms that do not comply with the provisions outlined in the Field Work Practice Handbook and students forgetting the stages they have completed during the implementation of the Field Work Practice. Additionally, the supervising lecturers and the Field Work Practice committee face challenges in tracking students’ progress due to mixed-up files. Consequently, the College of Vocational Studies of IPB requires an application that can monitor progress based on access rights and provide assessment forms and score recapitulation directly without manual recapping. The method employed for this study is the prototype method. Online access to the FRIDA App is available through the website https://fridasv.com, allowing users to access the application via a browser on a computer or handheld device connected to the internet.

1 Introduction

Internships/Field Work Practices (PKL) are crucial activities that directly involve students in the internal operations of an institution, enabling them to gain relevant knowledge and practical experience. PKL are crucial activities that directly involve students in the internal operations of an institution, enabling them to gain relevant knowledge and practical experience [1].

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As highlighted by [2], PKL offers a unique opportunity for students to acquire both hard skills, such as complex problem-solving and analytical abilities, and soft skills encompassing professionalism, effective communication, and teamwork. Simultaneously, industries benefit from the program by accessing potential talent for immediate recruitment, thus reducing recruitment and training costs. The integration of workplace demands with the essential competencies required of graduates, as proposed by [3], ensures that students not only acquire theoretical knowledge but also develop practical skills that align with the demands of their chosen professions, providing a robust foundation for a seamless transition into the workforce.

Companies/agencies with the mechanism, time period, and semester credit unit weight (SKS) in accordance with the curriculum of each Study Program. Therefore, apart from having to fulfil the general requirements of IPB Vocational School for this activity, students must also fulfil the specific provisions of each Study Program listed in the Handbook of the field work practice. The results of this activity are set forth in the form of a written report consisting of a Final Report and a Field Work Practice Report. The Final Report is presented in a seminar, and an examination is carried out. The PKL activities must be carried out by every student as one of the conditions for completing lectures [4].

Numerous administrative activities need to be managed within a limited time, involving four parties simultaneously, resulting in various problems. Among them, a considerable number of students submitted forms that did not comply with the provisions outlined in the PKL Handbook. Additionally, many students also struggle to recall the stages they have gone through during the implementation of their field work activities. Furthermore, the supervising lecturers and PKL committee face difficulty in tracking student progress due to the files being mixed among students. Another obstacle is that supervising lecturers have to inquire about the stages the students have completed in the study program, as they cannot access this information directly. The study program has to conduct repeated checks or manually recap student files to ensure completeness. Moreover, the value recapitulation process is hindered when assessment files get mixed with other files.

The use of web-based applications can be a solution to these problems. Web-based applications have penetrated various fields, taking advantage of the internet for accessibility. Each related party has access rights as needed. Currently, many administrative applications have been developed, such as administrative applications related to finance [5], administrative applications related to population [6], warehouse administration applications [7], institutional administration applications [8], and so on.

Based on the explanation above, it can be concluded that field work administrative activities can be transformed into a web-based system. Students can check the status of each stage, whether it is complete or not, and supervisors can monitor the progress of their students. The grades entered by the supervising lecturer, moderator lecturer, and examiner lecturer are immediately recorded by the system. IPB Vocational School requires an application that can track progress based on access rights, as well as obtain BAP (Academic Advisory Report) and score recapitulation directly without manual recapping. This application is called FRIDA (Field work practice Administration Application), an administrative application used for apprenticeships/Field work practices and final assignments.

2 Methods

The research method used in this FRIDA application employs a prototype model software development method [9]. According to [10], a prototype is an initial representation of several aspects of the final concept or design before production is carried out. Meanwhile, prototyping
is the rapid development and testing of a working model (prototype) of a new application through interaction and iterative processes, commonly used by information systems experts and business experts [11]. Prototyping is also known as rapid application design (RAD) because it simplifies and speeds up system design [12]. The prototyping process plays an important role in determining the allocation of development resources and influencing the success of the design project. To provide a thorough overview of this topic, this review explores various sources of literature in engineering, management, design science, and architecture [10].

The prototype method consists of five stages, namely communication; fast planning and fast design modelling; prototype formation; delivery of systems/software to customers, as well as feedback. The stages in the prototype method can be seen in Figure 1.

![Prototype Method](image)

**Fig. 1.** Prototype Method [13]

### 2.1 Communication

The initial stage carried out in the prototype method is communication between the developer and the customer. Doing this communication is defining any requirements for the software to be developed and identifying any requirements specifications that are currently known [10].

There are various methods used to communicate with customers, one of which can be done through discussions and interviews. The purpose of the discussions and interviews is to ask questions related to current activities, find facts, obtain accurate data, and gather ideas and opinions from customers who want to build a system. Discussions and interviews have advantages over other methods because they can reveal details that might be difficult to disclose beforehand. Additionally, the team and interviewers will also receive immediate answers [14].

### 2.2 Quick planning and quick design modelling

Prototyping iterations are planned quickly, and modelling in the form of rapid designs is
carried out. Quick design will start the construction of a prototype [10]. After planning, the next step is creating a system model. The purpose of the system model is to unify the understanding of the resulting system and quickly analyse which actors are involved in the system. Users can view modelling in the form of use case diagrams, activity diagrams, and class diagrams.

2.3 Prototype Designing

The prototyping stage is the stage for implementing the design stage. Making and coding the software includes the database implementation stage, the interface implementation stage, the input implementation stage, the process implementation stage, and the output implementation stage. The author works on both the frontend and backend, so in this final project, there are interface implementation stages, input implementation stages, and output implementation stages [14].

2.4 Delivery of systems/software to customers and feedback

The prototype is then handed over to the customer for evaluation of the application. Customers will evaluate and provide feedback on whether the application meets their needs or not. If the needs have not been met, then the prototype will be repaired, and a second iteration will be carried out until all user needs are met [14].

After implementing the next stage, testing is carried out using the black-box testing method. Testing is carried out to find errors in the application and demonstrate the functionality of the application when it is operated [14].

3 Results

The four stages in the prototype method used in this study are as follows:

3.1 Communications

The communication stage is the stage where researchers and programmers align their perceptions. The results obtained from this stage define the limitations and functionality of the FRIDA application. The functionality of the FRIDA application includes the following key features:

1. Users can register for colloquium, supervision, and internship exams.
2. Users can verify colloquium, supervision, and internship exams.
3. Users can fill out colloquium assessment forms, supervision forms, and internship exam assessment forms.
4. Users can change the password.
5. Users can upload signature.
6. Users can see a list of assessment forms that have been filled in.
7. Users can verify the invitation letter.

3.2 Quick planning and quick design modelling

In the rapid planning stage, a use case design is carried out for the application to be built. Use case diagrams state the visualization of interactions that occur between users (actors) and the system [15]. The use case diagram for the FRIDA application is presented in Figure 2.
application, there are five actors who interact with the system. Actors who interact are students, lecturers, study programs, academics, and academic commissions.

Fig. 2. Use case diagrams

There are three similar processes for colloquium activities, supervision, and internship exams. The three processes are as follows: the students register, the study program verifies, and after that, the lecturer conducts an assessment by filling out the form. Figure 3 shows a colloquium flow as an example.
Colloquium invitation letters and internship exam notifications are automatically sent to the students and lecturers after the study program verifies them. Subsequently, the academic enters the letter number, and the academic commission signs the letter. Any user can change their password.

3.3. Prototype Designing

At this stage, the FRIDA application display has been completed. Users who can access this application are those who have been registered by academics. For students and lecturers, when they first access the application, they will be immediately directed to the biodata menu. Students must complete their biodata (Figure 4), while lecturers must upload their signatures (Figure 5).
The colloquium activity process in Figure 3 can be explained as follows:

1. Users as students enter the FRIDA application by entering their respective usernames and passwords, and registering for the colloquium (Figure 6).
2. Users as study programs enter the FRIDA application by entering their respective usernames and passwords, and verifying the colloquium (Figure 7).
3. Users as lecturers enter the FRIDA application by entering their respective usernames and passwords, and filling out the colloquium assessment form (Figure 8).

4. Users as students can see whether the lecturer has filled out the assessment form or not (Figure 9). If the lecturer has filled out the assessment form, then the tick symbol becomes green.

5. Users as study programs and academics can view colloquium assessment files from all students (Figure 10 and Figure 11).

Fig. 6. Display of the user’s Colloquium as a lecturer

Fig. 7. Display of the User Colloquium Verification menu as a study program
Fig. 8. Display of the User Colloquium Assessment Form menu for lecturers

Fig. 9. Display of the status of filling out the user colloquium assessment form as a student
3.4 System/software delivery to customers/users and feedback

The FRIDA application is a web-shaped application that can be accessed anywhere and anytime as long as the user is connected to the internet. This application can also be opened on a computer or handheld device via a browser. The FRIDA application can be accessed on the https://fridasv.com page. The FRIDA application was tested by testing the features used for colloquiums. The test results are presented in Table 1.
Table 1. FRIDA feature testing for colloquium activities

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Test Form</th>
<th>Expected Result</th>
<th>Test result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodata testing</td>
<td>Enter the user name and password for the first time for student and lecturer users</td>
<td>Display the biodata menu to fill in</td>
<td>Successful</td>
</tr>
<tr>
<td>Colloquium list testing</td>
<td>Select the Colloquium List menu for student users</td>
<td>Display the form that must be filled in by students to register for the colloquium</td>
<td>Successful</td>
</tr>
<tr>
<td>Colloquium verification testing</td>
<td>Select the Colloquium Verification menu for study program users</td>
<td>Choose a moderator lecturer and enter the room</td>
<td>Successful</td>
</tr>
<tr>
<td>Filling out the assessment form testing</td>
<td>Choose the colloquium menu for lecturer users</td>
<td>Fill in the scores on the assessment form</td>
<td>Successful</td>
</tr>
<tr>
<td>Status form testing</td>
<td>Select the home menu for student users</td>
<td>Display a green checklist for lecturers who have filled out the assessment form</td>
<td>Successful</td>
</tr>
<tr>
<td>Testing of access to all assessment files</td>
<td>Select the BAP menu for academic users and study programs</td>
<td>Display assessment files for all students</td>
<td>Successful</td>
</tr>
<tr>
<td>Testing of the filling of invitation letter numbers</td>
<td>Select the letter submission menu for academic users</td>
<td>Fill in the letter number for each student</td>
<td>Successful</td>
</tr>
<tr>
<td>Invitation letter testing</td>
<td>Select the invitation letter menu for student, academic, and study program users</td>
<td>Display a signed invitation letter</td>
<td>Successful</td>
</tr>
</tbody>
</table>

4 Conclusion

The FRIDA application (Field Work Practice administration application) for the colloquium module has been successfully created. This application can be used for colloquium activities, which are part of a series of internships/Field Work Practices and final assignments for IPB vocational school students. This application is specifically designed and intended for use by all members of the academic community at the IPB College of Vocational Studies. Online access to the FRIDA App is available via the website https://fridasv.com. Access to the application can be carried out through a browser, either from a computer or handheld device connected to the internet.

There are 4 users who play a role in the FRIDA application. The process of colloquium activities on the FRIDA application consists of registration by students, followed by a verification process which is carried out by the study program, after which the lecturer fills out an assessment form. Students can see the status of the assessment form on the homepage. Files of colloquium assessment results can be seen in study program and academic users. The invitation letter menu is already integrated into the FRIDA application; therefore, users do not need an additional external link.
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