Development of WeShare As a Knowledge Sharing Platform to Realize the Freedom in Learning

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Abstract. Education builds a society quality to be creative, innovative. The Ministry of Education and Culture of Indonesia (Kemdikbud) program, "Freedom in Learning", is expected to be able to create a happy learning atmosphere for the community. It also deals with the innovative Community 5.0 where the community is human-centred and based on technology to improve the human ability to open opportunities for humanity, on the other side to break the sense of stagnation, mutual respect and be able to lead a life active and fun. Therefore, an educational platform “WeShare” was built to promote culture of sharing knowledge to society with the mission of "Together Empowerment". The research method used Research & Development (RnD) with Waterfall Models such as planning, analysis & design, development, testing, and maintenance programs. The aim of this program is to develop WeShare as a Knowledge Sharing Platform, and to understand the effects and benefits of WeShare program.

1. Introduction
Indonesia is a country that is listed as one of the countries that is experiencing a decline. The main cause is the education sector. Indonesia often puts education in the last rank of areas that need improvement, sometimes without realizing that education is the main key in efforts to revive Indonesia which is currently in decline. In fact, the programmatic components in the school curriculum are widely expected to support the achievement of the ideal goals of national education, namely the development awareness of diversity towards the realization of unity based on the values of Pancasila and the 1945 Constitution [1]. Basically, the field of education is one of the foundations in the progress of a nation, the better quality of education provided by a nation, the better quality of its human resources. The importance of education is also clearly regulated in Law No. 20 of 2003 concerning the National Education System, namely national education functions to develop capabilities and shape the character and civilization of a nation with dignity in order to educate the nation's life, aims to develop the potential students to become humans who believe and have devotion to God Almighty character, healthy, knowledgeable, competent, creative, independent, and a democratic and responsible citizen [2]. So, it is appropriate for a nation to continue to strive to improve the quality standards of education, especially when this is accompanied by increasingly rapid technological developments.

Sharing Knowledge is a learning method that is good for anyone to do, especially for Indonesian people themselves who are culturally familiar with the concept of discussion or deliberation. It can
encourage things like improving the understanding of the material, tolerance, care for each other, respect each other, expand the scope of friendship, and so forth. However, some obstacles, such as the limited friendship space of an individual, a forum, and the assumption that you have to be an expert first to be able to share, become a challenge for individuals to realize their good intentions. WeShare, as a web-based knowledge sharing platform, serves as a liaison between people who want to share knowledge (facilitators or mentors) and people who need this knowledge as a manifestation support for the concept of Free Learning delivered by the Minister of Education and Culture of the Republic Indonesia. WeShare was originally a knowledge-sharing movement #WeekendSharing which has now developed into a platform that can support the advancement of education and community culture, especially in welcoming the era of Society 5.0, an era in which technology is harmonized with human civilization so as to increase human capacity in opening opportunities for humanity, with insight going forward to break the existing sense of stagnation, mutual respect, leadership, comfort, an active, and fun life. Philosophically "Weekend Sharing" or abbreviated "WeShare" means a sharing of knowledge that is done by someone in their spare time. WeShare has a vision "Together Empowerment" which means to strengthen one another. By giving space to individuals or groups for sharing, we can build a more open world, and this is one of the best ways to build a culture of mutual respect, mutual learning, and reinforcing each other. In this study, the authors introduce the concept and process of developing WeShare as a Knowledge Sharing Platform to support independent learning programs.

2. Literature Review

Knowledge sharing is useful to enhance learning. For example, [3] uses knowledge sharing technique to enhance active learning by using web-based technology. Due to the popularity of mobile gadget, it should be more powerful developing knowledge sharing application. Waterfall development method is chosen for its simplicity.

The Waterfall System Development Life Cycle (SDLC) method is one of the approaches to development for systematic and sequential software ranging from environmental planning, analysis & design of the application to be made, development in making the application, and testing of the application itself, and application maintenance to keep an application running [4]. This is the simple method [5]. The waterfall SDLC method is shown as in Figure 1.

![Figure 1. Waterfall SDLC Method](image)

This method is also a method that has a characteristic that the work of each stage must be done first before moving on to the next stage. Thus the results will focus on each stage so that the work is carried out optimally because there is no parallel work [6].

3. Research Method

WeShare was developed with the Research & Development method with Waterfall System Development Life Cycle (SDLC) models.
3.1. Planning
At this stage, the WeShare team initiates and identifies problems that will be raised in WeShare.

3.2. Analysis
At this stage, information is collected and analysed to understand the software that suits your needs and can build a knowledge sharing culture. Information is obtained through:
- Study of Literature: Conduct literature studies from journals, books, magazines, website articles with keywords including independent learning, and software development.
- Observation: Observing weekend sharing activities directly or indirectly. This is done to find out how the weekend sharing is going and to get what is needed from the participants and the facilitators.

3.3. Design
Requirements specifications from the previous stage will be studied in this phase to assist in determining the overall software design that suits your needs. The activities carried out at this stage are:
- System Architecture Design: The design results are in the form of functional descriptions and design models of the knowledge-sharing cultural movement. The system design is then represented in the form of a Unified Model Language (UML) diagram or a Flowchart system.
- Application Interface Design: Design prototypes and asset designs for how the application will be displayed and run by the user.
- Data Design: design the source and flow of data in the software to be developed.

3.4. Development
This stage focuses on building (coding) a website based on the design results. The results of this stage are a set of website features that are ready for limited testing of users. This website is used only as a tool to facilitate activities.

3.5. Testing
The testing phase aims to ensure the website can run in accordance with user functions and needs and minimize errors that may occur.

3.6. Maintenance
At this stage maintenance is carried out and does not rule out if there are changes, added features, and so on based on user input.

4. Result and Discussion
WeShare basically starts from the spirit of movement to share knowledge from individuals or groups to those in need, voluntarily in their spare time. WeShare carries the mission of together empowerment, which means we can strengthen or empower each other. The WeShare movement is a shared movement, anyone, anytime and anywhere individuals/groups can be the initiator to share knowledge in their environment. The WeShare platform that is currently running is the [https://weshare.or.id](https://weshare.or.id) which has complete features for managing WeShare activities. While other media used are WhatsApp, IG / FB Page: @ weekend.sharing, Twitter: @weekendsharing, Telegram Group: t.me/weekendsharing, Email: halo@weshare.or.id. WeShare has been developed through the stages of planning, analysis, design, development, testing and maintenance. The planning stage is the initial planning stage, namely the initiation and identification of problems that are the main topics of WeShare. Here are the result of each stage:

4.1. Analysis
Basically, every individual has the potential and knowledge, even though it is as simple as anything, besides that there must be someone who needs it. Therefore, a platform is needed to share knowledge and connect participants with facilitators. By carrying out the concept of independent learning, namely the freedom to learn independently and creatively, WeShare is here to facilitate this.
Thus, WeShare is a liaison platform between individuals/groups who want to share knowledge (facilitators) with individuals / groups who need this knowledge (participants). WeShare is expected to be able to encourage initiative and create a platform for anyone to share knowledge in their environment.

4.2. Design
Based on the results of the analysis phase, the application interface design, flowchart and WeShare architecture are obtained as in Figure 2 to Figure 4.

![Figure 2. WeShare Interface Design](image)

![Figure 3. WeShare Flowchart](image)
Figure 4. WeShare Architecture

Overall, the WeShare architecture is not just about technology but more about building culture and social awareness. The WeShare architecture consists of four aspects:

- **Regulation.** This WeShare regulatory aspect demonstrates the WeShare concept as a forum for sharing knowledge based on the element of freedom in material and criteria, simplification of processes and flexibility in form and cost of activities.
- **Initiative.** The initiative aspect is based on the elements of motivation, care and volunteerism. The hope is that after the regulation is in place, people will be motivated, have concern and volunteer to share skills, knowledge, experiences and so on.
- **Technical.** The technical aspects of WeShare are based on elements of independence, collaboration, communication, and publication, which will lead to WeShare benefits, convenience, and user satisfaction with WeShare. Technically, the facilitator will create activities while participants will register for activities on the WeShare Platform (weshare.or.id). The two of them will then be connected through the coordination group prior to the implementation of activities. After the implementation of the activity, a review, documentation, and awards will be conducted.
- **Appreciation.** The appreciation aspect is based on strengthening, then follow-up and leadership. With this foundation, activities such as scholarship forums, partnership promotions, giveaways and others exist.

### 4.3. Development
At this stage, the WeShare platform will explain how the WeShare platform works, namely as a facilitator and participant.

**How to Become a Facilitator:**
The following is a summary of the steps to becoming a facilitator on WeShare
How to Become a Participant:
The following is a summary of the steps to become a participant in a WeShare:

1. Search for activities through the Search feature
2. Find an activity you are interested in, then "Get Ticket"
3. Filling in the activity form
4. Publish activities

1. Open the website weshare.or.id
2. Register for facilitator
3. Detailed WeShare activities will be displayed, you can proceed with “Booking Now”

4. Click “Book Now”

5. Fill in your personal data

6. Fill in the number of tickets then submit

7. Done

4.4. Testing
The testing phase of this test was carried out on respondents who had participated in WeShare. The aspects assessed are usefulness (usefulness of WeShare), easy to use (ease of using WeShare), and satisfaction (level of user satisfaction with WeShare).

Figure 5. Usefulness Assessment Results

Based on Figure 5, as many as 50% of the respondents chose a scale of 4 which means WeShare is useful and the remaining 50% chooses a scale of 5 which means WeShare is very useful.
Figure 6. Ease of Use Assessment Results

Based on Figure 6, as many as 13.6% of the respondents chose a scale of 3 which means WeShare is not too difficult and also not too easy (medium), as many as 45.5% choose scale 3 which means WeShare is easy to use and the remaining 40.9% chooses a scale of 5 which means WeShare is very easy to use.

Figure 7. Satisfaction Assessment Results

Based on Figure 7, as many as 9.1% of the respondents chose a scale of 3, which means that users have a moderate level of satisfaction with WeShare, as many as 40.9% chose a scale of 3 which means that users are satisfied with WeShare and the remaining 50% choose a scale of 5 which means that users are very satisfied with WeShare.

4.5. Maintenance

At this stage, routine and periodic activities are carried out, namely maintenance which aims to maintain the website so that it remains in good performance, updated, and avoid various problems that can be detrimental. Even in this maintenance, it does not rule out if there are changes, additional features, and other input from users. The maintenance we do is in the form of:

1. Check Website Hosting
   Checking the website hosting aims to keep the website speed stable due to various visitor activities on the website, which can cause the CPU (Central Processing Unit) usage to increase so that it can cause website loading to be slow.

2. Backing Up Website Data
   Periodically back up website data contained in hosting to anticipate force majure situations, such as hacker attacks or viruses that threaten website security. This activity is done at least once a week.

3. Pay attention to virus and hacker attacks
   To anticipate virus and hacker attacks that can damage or steal the data contained on the WeShare website, we use Google WebMaster tools which will notify you of various malicious scripts.
4. Evaluate SEO Performance
We always use SEO (Search Engine Optimization) optimization techniques because they are proven to be able to increase website traffic on search engines. But optimization cannot be done once, so it is necessary to regularly evaluate SEO performance gradually and continuously.

5. Update WeShare Content
Because the more up to date information is displayed, the more often people will visit the WeShare website.

Since the establishment of WeShare as of December 20, 2019, WeShare has been implemented in 7 regions in Indonesia and has several types of leaders, namely regional leaders (regional), campus leaders (campus organizations), and school leaders (school level). The leader is defined as the initiator of the weekend sharing activities. Through "weshare.or.id" the facilitator can make knowledge sharing activities and participants can register themselves in the events that have been made by the facilitator. Activities are carried out face-to-face through the learning by teaching method and the culture of sharing (sharing). These activities can be carried out online and offline depending on the facilitator. Some of the fields of knowledge that have been shared include information technology, fashion, business economics, research, religion, psychology, personal development, and so on. WeShare was welcomed by the community, as evidenced by the presence of more than 40 knowledge sharing activities from various fields of science, followed by a total of 45 facilitators and 200 participants from various backgrounds. WeShare has become a platform to support independent learning that empowers one another.

5. Conclusion
The WeShare program is an educational sharing platform that empowers one another and can support hobbies, interests, education, soft skills, and work in the community. The implementation of WeShare is in accordance with the concept of free learning echoed by the minister of education and culture of the Republic of Indonesia, Nadiem Makarim, namely freedom to innovate, freedom to learn independently, and creatively. WeShare as a knowledge sharing platform in the current digital era is in accordance with the concept of Society 5.0, where this program is human centred and technology-based.

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