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DAFTAR ISI

Prototype of E-Collaborative Exam Through Wiki

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Abstract

E-learning implementation in higher education environment would not be succeeded if there is no improvement inside it. Some researches already declare that collaborative learning framework should help e-learning execution more successful, however it still need unique implementation in each college. Hence this paper tries to create alternative framework for higher education environment in order to make a collaborative situation in e-learning or commonly named as e-collaborative learning. This research actually comes from a big research which modeling and implementing specific wiki in information system study program at Ma Chung University. While MacWiki itself currently being developed, this research will continue its progress from prototyping into implementation.

Kata Kunci: E-Collaborative, Wiki, E-Lear

1.INTRODUCTION

It is commonly known that e-learning implementation in higher education environment would not be succeeded if there is no improvement inside it [1]. Especially in faculty which has core knowledge in IT field, surely it will become a stubborn resistance in implementing successful e-learning.

However, some researches already declare that collaborative learning framework should help e-learning execution more successful [2]. This approach being believed can improve learning more effective for college's student [3,4].

Even though many empirical research already being done about collaborative learning [4], however it still need unique implementation in each college. Hence this paper tries to create alternative framework for higher education environment in order to make a collaborative situation in e-learning or commonly named as e-collaborative learning.

One of the most common way to implement collaborative situation in e-learning environment is using wiki [5,6]. It is not merely based on wikipedia popularity, however, it already being proven that

using wiki technique is more succesful for learners which need self motivation and also anxious about the effectiveness of e-learning [6]. This learners characteristic matchs with most college's students in Indonesia, which commonly hesitate whenever their lecturers try to give course material in e-learning way [7].

This research actually comes from a big research which modeling and implementing specific wiki in information system study program at Ma Chung University. However, while the wiki which called MacWiki (Ma Chung Wikipedia) is currently in development stage, this prototyping might be very helpful to create reliable and proper implementation.

This research itself merely focus on how the wiki will be implemented as part of examination in higher education enviroment. Particularly in producing collaborative exam which will be part of e-collaborative in MacWiki. Since that MacWiki should meet effectiveness requirement as well as efficiency of e-learning, thus the model that will be presented in this paper should be far than just common conceptual model.

2.LITERATURE REVIEW

Wikis are collaborative environments by design, and can serve a variety of purposes for collaborative online projects. Wikis are commonly used as personal information managers (PIMs), knowledge bases or knowledge management systems, content for academic instruction, sites for collaborative authoring of a document or project development, and collaborative communication forums [8].

Wiki word originally came from Hawaiaan which means quick, and early developed by Howard G. Cunningham at 1994 as wikiwiki. While the definition of wiki also defined as A collaborative

website whose content can be edited by anyone who has access to it [6].

The usage of wiki nowadays simply often related with encyclopedia function, since that wikipedia popularity has raised beyond expectation. However, it is already being proven that using wiki's software based can support e-learning more successful in collaborating students knowledge and also encourage students to be better [5,6,8].

On the other hand, utilization of wiki in e-learning should have careful steps in its implementation. This caused by the characteristic of each study environment which need special treatment from its teacher [5,6,8]. Thus, it clearly stated that each environment should build wiki model distinctively rather than just doing simple adaptation from ready to made wiki's software based.

Collaboration is a process by which individuals and/or groups work together on a practical endeavor. Collaborative work is a fundamental feature of organizations and is increasingly being supported by technology [9]. It is commonly known that helping students develop the interpersonal skills that underpin collaboration is an essential part of preparation for the world of work [4]. Thus, collaborative skill is really needed in order to make higher education learning process more effective.

On the other hand, online learning often exacerbates earners' ambivalence toward group work [10]. While e-learning has already growth rapidly, the emergence of collaborative learning in online environments must become more focus in its building process [4,10]. Thus, using collaborative technique applied in e-learning environment, students will get more excited in doing learning process [10].

3.PROTOTYPE

The grand design of MacWiki was based on thought that common e-learning which caused stubborn resistance would be revealed by collaborative session [1]. The e-collaborative itself will be conducted by a lecturer as the moderator of *watchlist* in wiki filling process.

However, the collaborative session must create a clear result in order to maintain students' spirit for long-lasting effort in their work. Thus, each collaborative session's result will be published as legit wiki page based on each course which lecturer has been conducted. For example : there will be wiki page for *internet programming* course which comes from an *internet programming* class.

Even though the explanation seems so easy, the implementation itself is not that easy. The process of MacWiki development which based upon *media wiki* template has resulted some contraints to fit the design. Media wiki, the chosen template, is already being proven as great template among other wiki template. This fact supported by reality that wikipedia, the biggest wiki in cyber world, build using the template. However, media wiki itself is not completely built as grouped collaborative pattern. Thus, some modification must be made in order to fit the design.

The big modification is made in approval flow of page creation. Since that lecturer is positioned as moderator, thus there must be greater privilige above lecturer. This privilege can be held by dean of faculty or head of study program as person in charge (PIC) in wiki's content development and strategic planning. This privilege does not define technical capability, yet PIC privilege must be granted to anyone who responsible through the long term plan of wiki.

PIC will define which courses should be stand as independent topic and how it should connected to other courses as related topic. It should also explain to lecturers how to create the relation, thus all of students which involved in collaborative process can see the big knowledge inside the wiki. This process is not as easy as it seem, therefore lecturers also need to improvise their capability in creating related pages in a course topic.

On the other hand, lecturers as moderator must design long term collaborative process in their classes, so the students will never feel bored with their effort and they keep their spirit in collaborating to finish the page. Thus, lecturers should divide random and anonymous group in e-colllaborative process in order to keep students feeling being challenged.

Lecturers also have privilege to assign some students become group leader. This process might make some students who already have good rating (another term for scoring process in media wiki) become more fascinating to create better effort.

After all the explanation, perhaps it better to look at it as use case diagram in following figure :

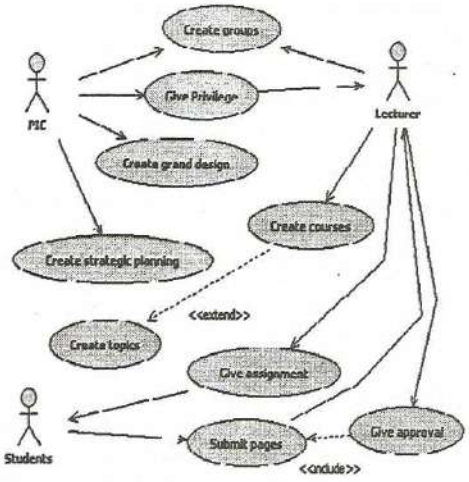

Figure . Use Case Diagram

So, the exam in this wiki process actually come from wiki filling process. While the students keep busy with their assignment for creating pages in specific content which their lecturers has been told, lecturers can monitor them through the watchlist. Watchlist is a list of unapproved pages which has been created by *bot* or common users (in this case, bot is students).

In process of monitoring watchlist, lecturers can give rating to their students as scoring process, and also give approvement or reject students page based upon assignment criteria. While a group of watchlist can generate best choice of which page will be published, it also can give the students realize which group are considered as best one.

This collaborative process certainly give students in class a competitive feeling among them. So, lecturers can create exam in staggered way, which is not merely one type of exam but many variation. For example : lecturers of *software engineering* course who would give exam about *software testing* chapter, first they can create exam about *white box testing* in MacWiki. If there is a group who already give their best shot, then lecturers can give another exam about *black box testing* to other groups which failed in first test.

This staggered process will give MacWiki content better every semester. It also can give lecturers (and also students) better reference for the courses. However, lecturers' creativity is the central key in order to make this collaborative process running well. Big design of this process is captured in following acitivity diagram :

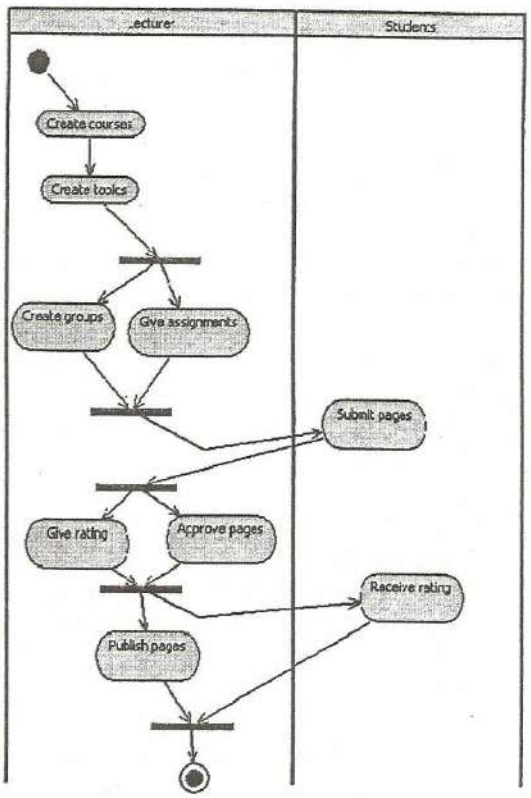

Figure 2. Activity Diagram

SUMMARY

This small research gives some important summary as conclusion which are :

1. E-learning implementation is technically easy, however, it is not as easy as its concept. Thus, it needs improvement to make e-learning more successful rather than just become common courses activity
2. Creating collaborative process in e-learning activity or commonly known as e-collaborative has been empirically proven as one of improvement way in increasing students' excitement.
3. One of method in generating e-collaborative is using wiki as basis of e-learning. On the other hand, wiki pages which are published also can be great references for all students, lecturers and public too.
4. Wiki implementation need a great grand design from a responsible person in charge who has great privilege in higher education environment

5. Wiki implementation of e-collaborative especially in conducting exam need lecturers' creativity and improvisation to keep competitive spirit among students, thus they got encouragement in doing their exam gradually.

6. E-collaborative exam need great attention from lecturers, since that the process needs staggered process for each groups.

FUTURE WORKS

While MacWiki itself currently being developed, this research will continue its progress from prototyping into implementation. However, the implementation would not be guaranteed succeeded because it need empirical evidence. The evidence will involved intense survey from whole actors who involved in. And for each survey will need immediate response in order to create most suitable model for whole execution.

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