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The Researching System Development of Co-operative Project on Android Application

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Abstract: The purposes of this research has 4 objectives 1) to design database of the researching system development of co-operative project on android application 2) to develop the researching system development of co-operative project on android application 3) to evaluate satisfaction using of the development system 4) to evaluate efficacy of the development system. The system develop by PHP language and design database by MySQL, design user interface by bootstrap and application developed by android studio. The system development can do management database co-operative project and researching co-operative project on android application. And then evaluate efficacy this system from 3 expert analyses by mean. The result founded that efficacy of system was a high level $x=4.41$. And then evaluate satisfy this system analyses by mean. The result founded that satisfy of system was a high level $x=4.30$.

Keywords: Application, Co-operative Education, Project, System Researching

1. INTRODUCTION

At present, the competition in human resource is very high. Different universities, therefore, are focusing on producing qualified students in term of academic and necessary skill for competitive advantages [1-5] based on the ability to learn and self-development among learners. Universities, therefore, must provide teaching and learning that meet learners' skill and interest based on National Education Act B.E. 2542 requiring universities to provide teaching and learning to promote learners' basic knowledge, ability and skill [4]. Co-operative Education meant educational system focusing on systematic training at the establishment along with training in the campus so that students would learn by doing and be qualified as per the need of establishment as much as possible. Academic co-operation between the university and establishment was continuous based on co-operative education focusing on co-operation among related parties for the maximum interest [1-3]. To provide co-operative education, each student was assigned to produce co-operative educational project that was beneficial for the organization and developing their knowledge and ability during the training session.

The faculty of business administration and information technology, Suphanburi center provided 4 majors including accounting, marketing, administration, and information technology and business computer for senior year students. These subjects were co-operative education that could produce 200 students per academic year. When students completed training, they would submit their project to the library in the campus. There were, therefore, a lot of projects in the library that make new students take time to search previous data [6].

Further to the above mentioned, the researcher had applied information technology in storing co-operative educational projects in term of co-operative educational project database through the internet in term of website and we had developed an application allowing users to download database on their smartphones easily and fast.

2. OBJECTIVE OF RESEARCH

- 2.1 Design database of the researching system development of co-operative project on android application.
- 2.2 Development of the researching system development of co-operative project on android application.
- 2.3 Evaluate satisfaction using of the development system.
- 2.4 Evaluate efficacy of the development system.

3. RESEARCH METHODOLOGY

3.1 STUDY INFORMATION TO RESEARCH

- 3.1.1 Co-operative Education.
- 3.1.2 The tools used for development system and application. And tools used for research.
- 3.1.3 The method for development.

3.2 SYSTEM ANALYSIS AND DESIGN

- 3.2.1 Analyze problems of work in old system. Use interview those involved.
- 3.2.2 Analyze requirement of new system.

3.2.3 Design system of DFD-Diagram tools and design database of ER-Diagram tools.

3.2.4 Design user Interface input and output.

3.3 DEVELOPMENT TOOLS

3.3.1 Development system researching system development of co-operative project on android application.

3.3.2 Development application.

3.3.3 Develop evaluation efficacy of system for technical professionals.

3.3.4 Develop evaluation satisfy of system for user.

3.4 EXPERIMENTS AND DATA COLLECTION

3.4.1 Define population and sample

3.4.1.1 Population to the research

The population of the research is admin and teacher and student faculty of business administration and information technology, Rajamangala University of Technology Suvarnabhumi Campus at co-operative in year.

3.4.1.2 Sample to the research

Sample total 50 person is admin 2 person and teacher 10 person and student 38 person faculty of Business

Administration and Information Technology, Rajamangala University of Technology Suvarnabhumi Campus at co-operative in 1/2558 by purposive sampling.

3.4.2 Experiments and data collection

3.4.2.1 Tests by experts and then evaluate efficacy rating scale 5 level this system from 3 expert analyses by mean.

3.4.2.2 Tests by users and then evaluate satisfy rating scale 5 level this system analyses by mean.

3.5 ANALYSIS AND CONCLUSION

3.5.1 Analyze evaluate efficacy and evaluate satisfy by mean and standard deviation and percentage.

4. RESULTS

4.1 RESULT OF DESIGN DATABASE

The result founded that database design is relational database by ER-Diagram have 11 tables that is Faculty_agencies Branch Area Areagroup_branch Room Student Teacher Type_project Project Filesproject and Admin by figure 1-1 and then design system of DFD-Diagram tools by figure 2.

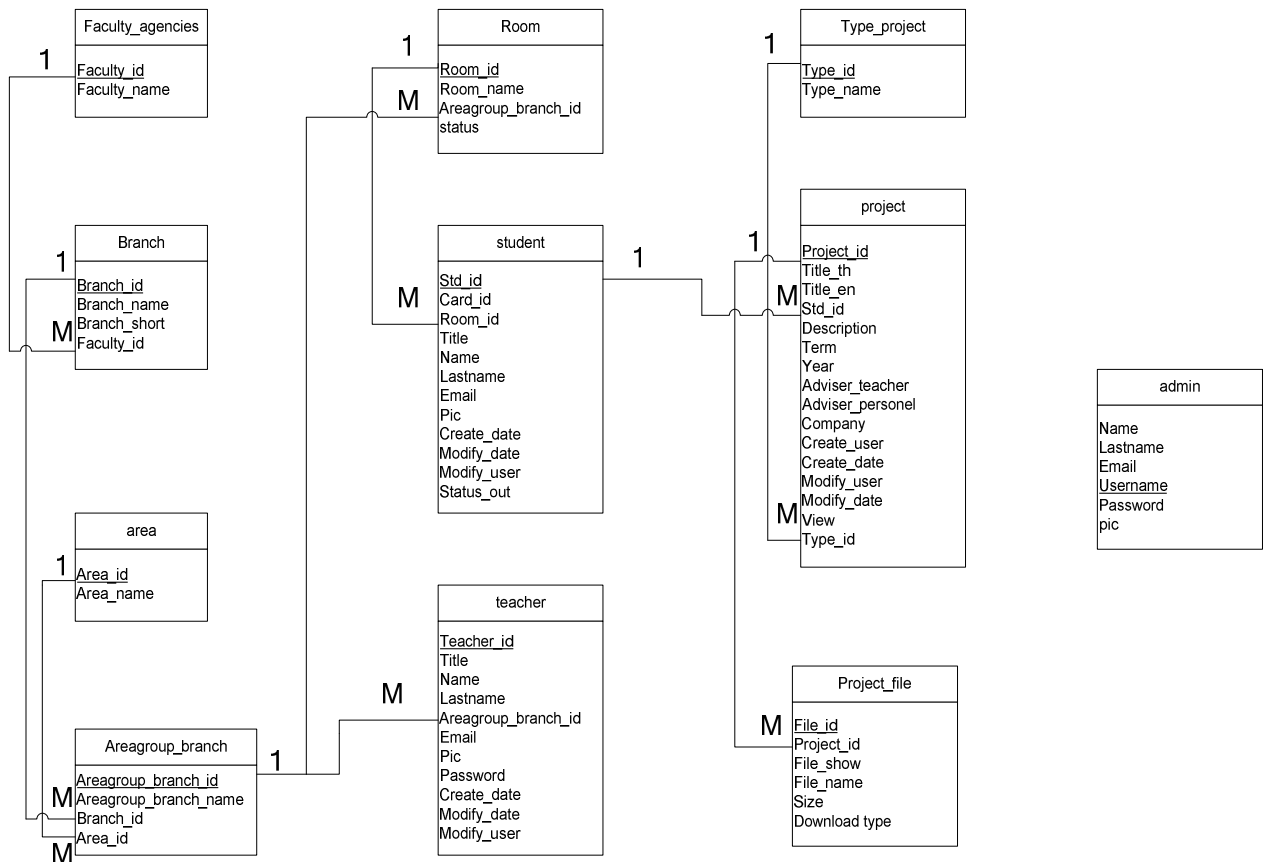


Fig. 1. Design Relational Database ER-Diagram tools

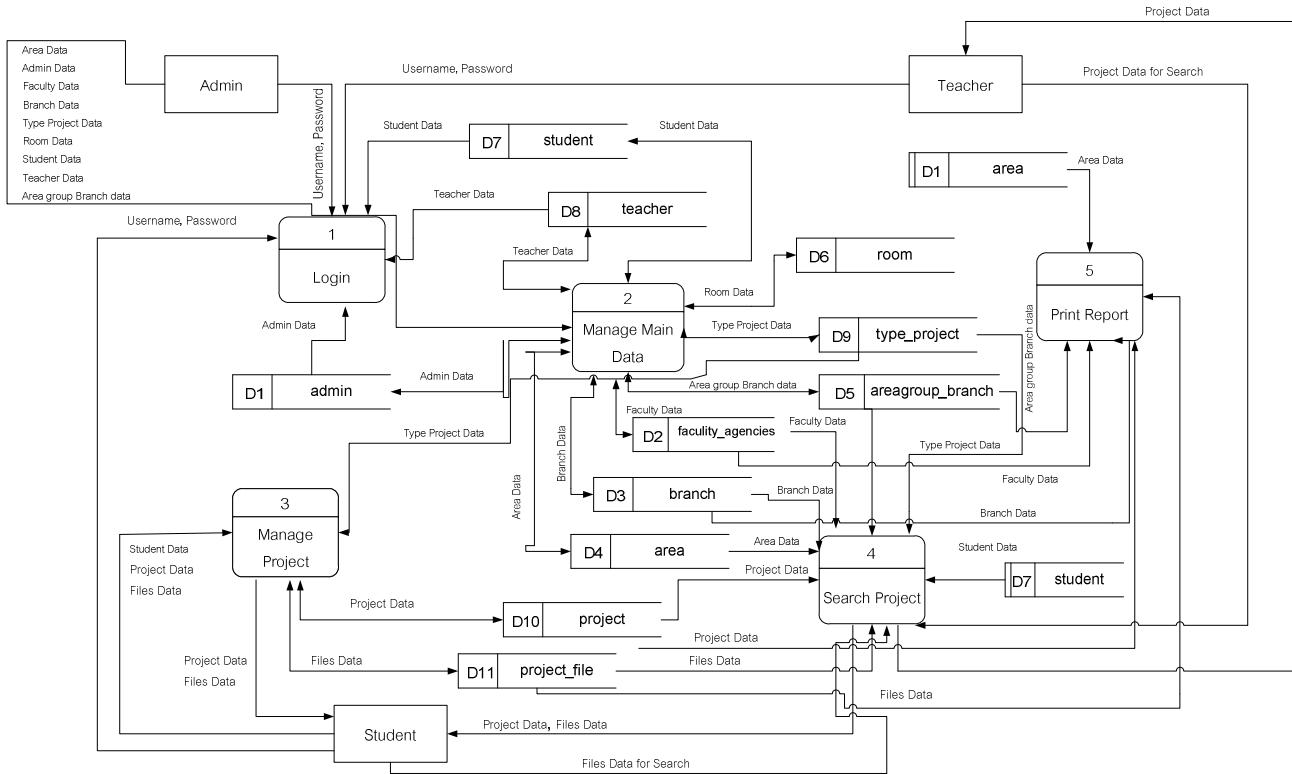


Fig. 2. Design System DFD-Diagram tools

4.2 RESULT OF DEVELOPMENT SYSTEM

The development system by PHP language and design database by MySQL and design user Interface by bootstrap and development applications by android studio. The User Interface design structure feature responsive website by

bootstrap the developed system can support computer and smartphone. The setup system by download application from website setup in smartphone and telephone with android operating system. The login system by check status user that is admin teacher and student by figure 3.

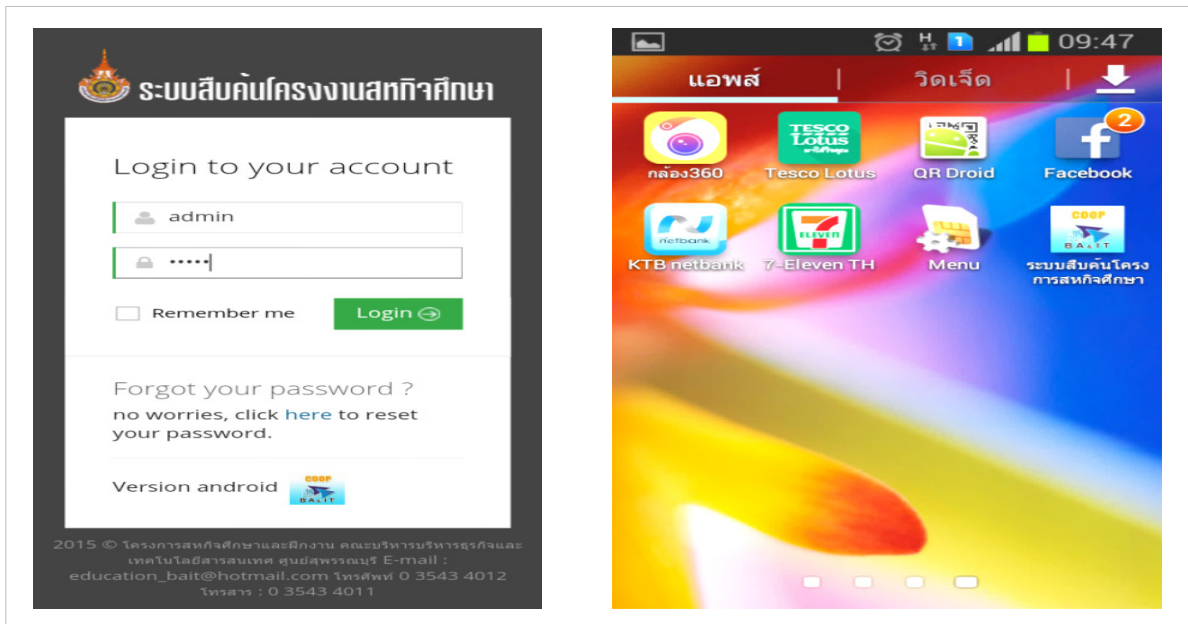


Fig. 3. The setup system and login system

The admin uses system overall management system that is list menu and figure menu by figure 1.4

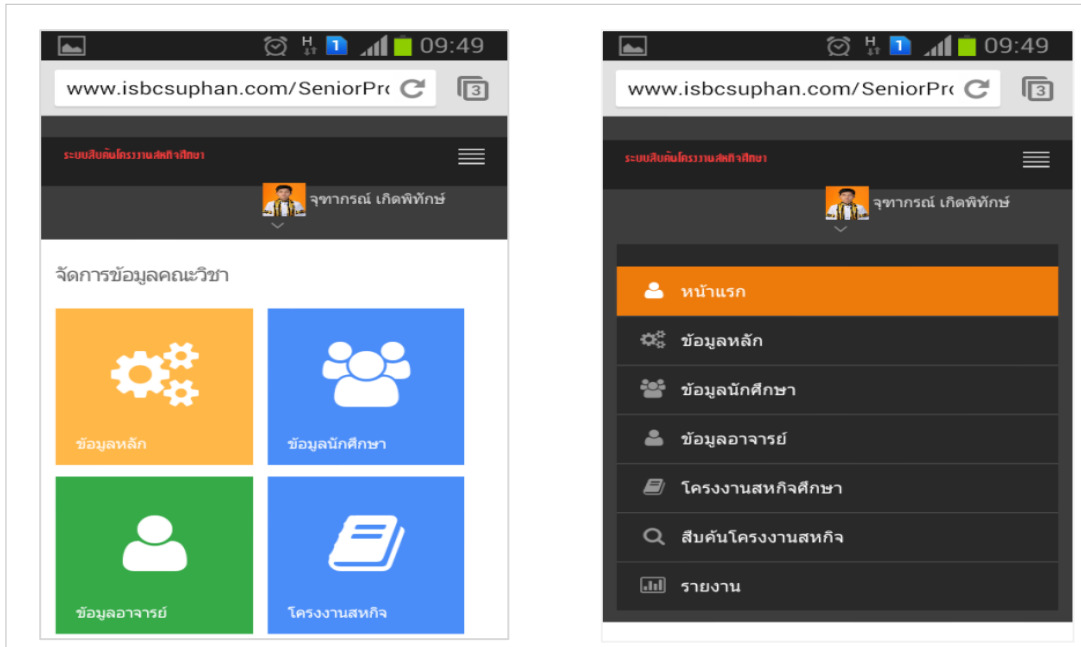


Fig. 4. The main menu for admin

The teacher and student uses system can do researching co-operative project on android application at several conditions and can do download project files by figure 5.

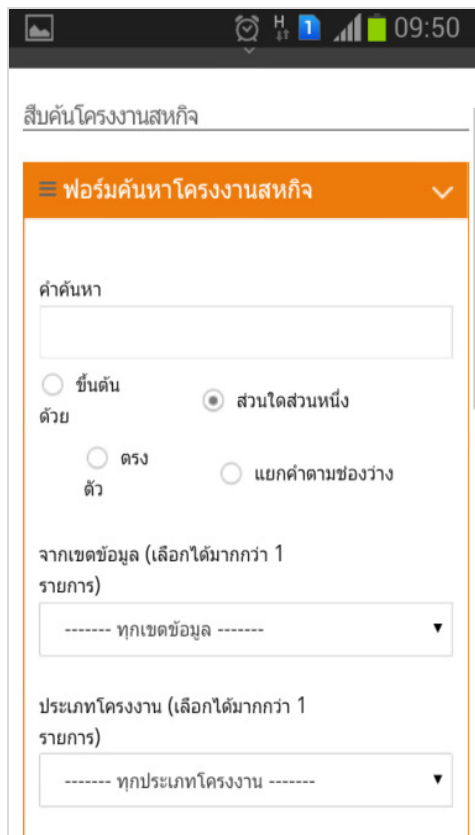


Fig. 5. There searching system development of co-operative project on android application

The student is practice co-operative education can do upload co-operative project files in system by figure 6.

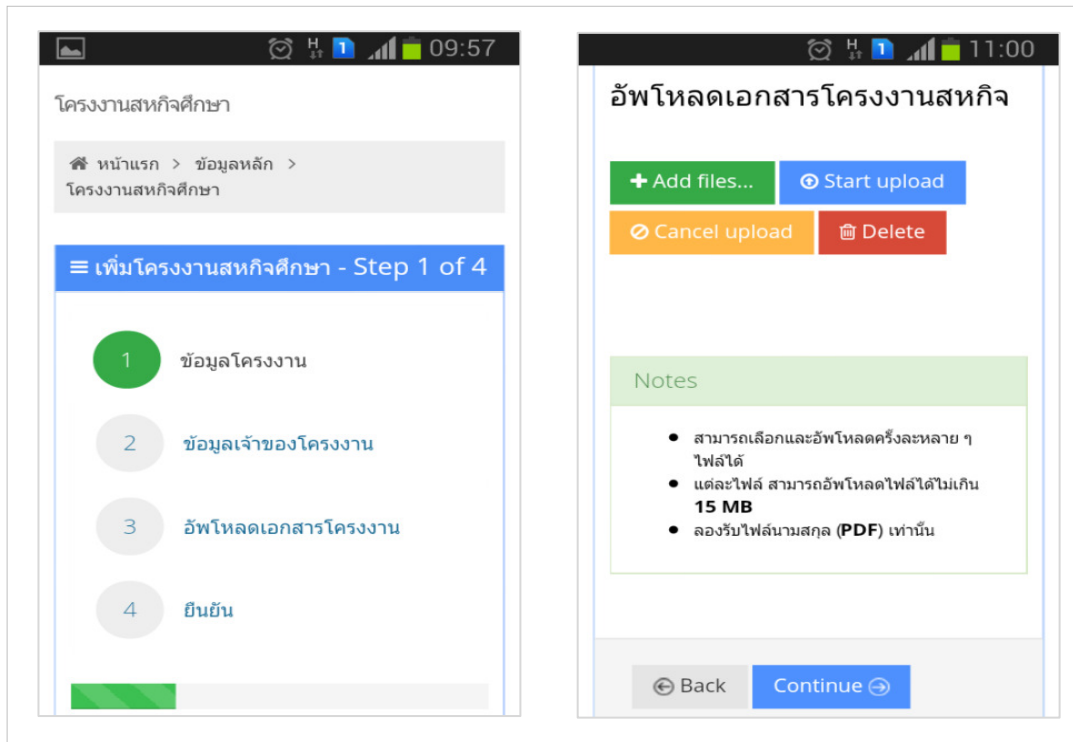


Fig. 6. The student upload co-operative project files

4.3 RESULT OF EVALUATE EFFICACY

The effectiveness of the developed application was evaluated by 3 specialists as shown in table 1-1, and could be summarized its effectiveness as shown in table 1.

TABLE 1: The effectiveness of co-operative educational project database through the application on android evaluated by specialists.

Topic	Mean	S.D.	Level
1. Functional Requirement Test	4.25	0.45	High
2. Function Test	4.47	0.52	High
3 Usability Test	4.67	0.49	Tallest
4. Security Test	4.25	0.45	High
Evaluate efficacy this system overall	4.41	0.48	High

System effectiveness analysis by specialists from table 1-1 based on its usability test, function test, functional requirement test and security test had shown mean average at 4.67, 4.47, 4.25 and 4.25 respectively. Its overall effectiveness was evaluated high with mean average at 4.41.

4.4 RESULT OF EVALUATE SATISFY

Further to user’s satisfaction evaluation of co-operative educational project database through android application

based on real usage by system administrator, instructors and students at the faculty of business administration and information technology at Rajamangala University of Technology Suvarnabumi, Suphanburi Campus and questionnaires as shown in table 1-2.

TABLE 2: User’s satisfaction towards the developed system

Topic	Mean	S.D.	Level
1.Download application	4.28	0.81	High
2. Setup application	4.12	0.85	High
3.Insert data in system	4.38	0.78	High
4. Size and format of character screen monitor	4.22	0.86	High
5. Use language and symbol screen monitor	4.34	0.85	High
6.Format menu button and tools	4.24	0.77	High
7.Show description notifications	4.14	0.83	High
8.Insert and save data	4.30	0.76	High
9. Accept data in system	4.38	0.85	High
10. The searching data in system	4.46	0.76	High
11. Process of operation system	4.24	0.80	High

Topic	Mean	S.D.	Level
12. The ease of use of the system	4.42	0.73	High
13. The speed of response of the user	4.40	0.81	High
14. The right to choose the color	4.28	0.76	High
15. The overall output on the screen	4.12	0.77	High
16. Upload speeds data	4.34	0.80	High
17. Speed Downloads	4.40	0.81	High
18. The filter of search	4.36	0.75	High
Evaluate satisfy this system overall	4.30	0.79	High

From table 2 based on its users are very satisfied with the system, the developers found that most users were satisfied with the level of the 16 questions and find satisfaction system. Its overall satisfied was evaluated high level with mean average at 4.30.

5. CONCLUSIONS

The co-operative educational application based on android was developed to be used on computer or downloaded application used on smartphone. It was designed as related database using responsive web with bootstrap technology to control result showing that fast responded application both on computer and smartphone. Result showing was more accurate than HTML website design only. Further to its functional test, the application allowed users to search the information by filling out the keyword or selecting desired filters which was convenient and fast. The users could also download the specific chapter in the project in PDF form such as abstract, chapter one or two. And then evaluate efficacy this system from 3 expert analyses by mean. The result founded that efficacy of system was a high level

$x=4.41$. And then evaluate satisfy this system analyses by mean. The result founded that satisfy of system was a high level $x=4.30$ We, therefore, concluded that the co-operative educational project application on android was more effective and practical.

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