International Journal of Computer Science Issues

More than a traditional journal...

IJCSI Open Access Publications

IJCSI Thesis Publications IJCSI Conference Special Issues Search Publications, Authors, More...

IJCSI Volume 17, Issue 6, November 2020

A Fault Tolerant Mechanism for Partitioning and OffloadingFramework in Pervasive Environments
Nevin Vunka Jungum, Nawaz Mohamudally and Nimal Nissanke
Download Full-Text

Computer Guided Implant placement through impacted Canine and immediate provisionalization
Nazario Russo and Massimiliano Ciaravolo
Download Full-Text

Agent based module for simulating mutual exclusion algorithms
Senoua Cesar, Kamla Vivient Corneille, Yenke Blaise Omer and Kamgang Jean-Claude
Download Full-Text

Assessing Automated Machine Learning Service to Detect COVID-19 from X-Ray and CT Images: A Real-Time Smartphone Application Case Study
Razib Mustafiz and Khaled Mohsin
Download Full-Text

SED: An Algorithm for Automatic Identification of Section and Subsection Headings in Text Documents
Bello Aliyu Muhammad, Rahat Iqbal, Anne James and Dianabasi Nkanta

Download Full-Text

Motion Planning In Metabolic Pathways Using Probabilistic Roadmap and A* Algorithms
Angela Makolo and Obotu Ojobo
Download Full-Text

Management of High Quality Available Services Using Virtualization
Ergest Alite, Olimpjon Shurdi and Igli Tafa
Download Full-Text

Are serious games a good strategy to improve students level knowledge?
Loubna El Azizi
Download Full-Text

Towards Rigorous Selection and Configuration of Cloud Services: Research Methodology
Asmae Benali and Bouchra El Asri
Download Full-Text

Information System Analysis and Design for Final Assignment Exhibition
Meliana Christianti J
Download Full-Text

e-Certificate system based on Portable Document Format and QR Code for Academic Activities
Bernard Renaldy Suteja, Radiant Victor Imbar and Meliana Christianti Johan
Download Full-Text

IJCSI Published Papers Indexed By:

arXiv.org

DOAJ DIRECTORY OF OPEN ACCESS JOURNALS

BASE Bielefeld Academic Search Engine

Google scholar

SciRate.com

ScientificCommons

Scribd

.docstoc
find and share professional documents

CiteSeerx beta

Q·Sensei BETA

SCIRUS
search engine for science

CALL FOR PAPERS

- **May 2021 - Volume 18, Issue 3**
  Deadline: **30th April 2021**
  Publication: **05th June 2021**
-
-
- **July 2021 - Volume 18, Issue 4**
  Deadline: **30th May 2021**
  Publication: **30th July 2021**

Latest Articles

- 1. A Fault Tolerant Mechanis...
- 2. Computer Guided Implant p...
- 3. Agent based module for si...
- 4. Assessing Automated Machi...
- 5. SED: An Algorithm for Aut...
- 6. Motion Planning In Metabo...
- 7. Management of High Qualit...
- 8. Are serious games a good ...
- 9. Towards Rigorous Selectio...
- 10. Information System Analys...
- Browse all »

About IJCSI

IJCSI is a refereed open access international journal for scientific papers dealing in all areas of computer science research...

Learn more »
Join Us

- Facebook
-

SUBSCRIBE TO IJCSI

Email Address 

Reload Image
Captcha Code:
Submit

FAQs

Read the most frequently asked questions about IJCSI.

Frequently Asked Questions (FAQs) »
Get in touch

Email: info@ijcsi.org

More contact details »

IJCSI International Journal of Computer Science Issues, Volume 17, Issue 6, November 2020
ISSN (Print): 1694-0814 | ISSN (Online): 1694-0784
www.IJCSI.org https://doi.org/10.5281/zenodo.4431078

Information System Analysis and Design for Final Assignment Exhibition

(Case Study : Informatics Engineering Department of Maranatha Christian University Bandung)

Meliana Christianti J.[1], Radiant Victor Imbar, Bernard Renaldy Suteja and Nevin Syahputra[4]

[1] The Faculty of Information Technology, Maranatha Christian University Bandung, 40164, Indonesia

[2] The Faculty of Information Technology, Maranatha Christian University Bandung, 40164, Indonesia

[3] The Faculty of Information Technology, Maranatha Christian University Bandung, 40164, Indonesia

[4] The Faculty of Information Technology, Maranatha Christian University Bandung, 40164, Indonesia

Abstract

The Faculty of Information Technology is one of the faculties at Maranatha Christian University. One of the study programs at the Faculty of Information Technology is the S1 Informatics Engineering Study Program. Since Odd Semester 2018/2019 students who have completed the Final Project course display their work in the Information Technology Faculty Student Final Project Exhibition event. The displayed poster has not been saved in the system. In this research, analysis and application design will be carried out to help save the posters displayed at the Final Project Exhibition. This application is made web-based with the PHP programming language and mySQL database.

Keywords: *Web Application, Exhibition of Work, Final Project*

1. Introduction

The Faculty of Information Technology is one of the faculties at Maranatha Christian University. One of the study programs at the Faculty of Information Technology is the S1 Informatics Engineering Study Program. Since Odd Semester 2018/2019 students who have completed the Final Project course display their work in the Information Technology Faculty Student Final Project Exhibition event. The displayed poster has not been saved in the system.

Posters displayed in this Final Project Exhibition Event can only be seen during the event. After the event ended, the poster files were only kept by the Final Project Coordinator. In this research, analysis and application design will be carried out to help save the posters displayed at the Final Project Exhibition so that after the exhibition, the students' final assignments can be seen by many people anytime and anywhere. This application is made web-based with the PHP programming language and mySQL database.

Based on the background described above, there are several problem formulations as follows:

1. How to make an application to manage student data who participated in the TA Exhibition at the Information Technology Faculty of Maranatha Christian University?
2. How to make an application that can be used to store and display posters from final project students at the Information Technology Faculty of Maranatha Christian University?

The objectives and benefits of this study are as follows:

1. This research will produce a web-based application design that can be used to manage student data who have completed the final project course. These students were

involved and registered as participants in the Student Final Project Exhibition at the Faculty of Information Technology, Maranatha Christian University, Bandung.

2. This research will produce an application design that can be used to store and display posters of Student Final Project Work at the Faculty of Information Technology, Maranatha Christian University, Bandung. With this application, it is hoped that more parties will be able to see the work of IT students anytime and anywhere.

2. Literature Review

2.1 Definition of Exhibition

The definition of exhibition according to some experts delivered in Pendidikan.co.id is as follows: [1]
1. According to Isabel Briggs Myers,
The definition of this exhibition is an activity that involves a room (gallery), as well as exhibiting works of art such as paintings, carvings, still images, and other works.

2. According to Evelina Lidia,
The definition of this exhibition is an activity or community activity that can be held by an independent organization and is open to the public.

3. According to Freed E. Han and Kenneth G. Mangun
The definition of this exhibition is an effective means of marketing as a campaign objective, be it specific products, socialization of company programs, and also information about the advantages of a product to the public, as well as an effort to increase market penetration.

4. According to Frank William Jefkins
The meaning of this exhibition is the only marketing medium that can or can touch all five human senses (eyes, ears, skin, nose, tongue).

5. According to Adi Irwanto
The meaning of this exhibition is one way to be able to or be able to present a work of art visually, be it two-dimensional or three-dimensional works of art.

So, an exhibition is an activity that presents certain works of art or products to be presented / shown to many people. In this study, the work presented is the Final Project Work of Students at the Faculty of Information Technology.

2.2 Functions and Benefits of the Exhibition

Exhibition of Student Final Project Work at the Faculty of Information Technology is expected to have the following 4 functions and benefits: [2]

1. Education function, this is an exhibition function that has the benefit of educating and training students who have completed their Final Project courses. This is also very useful because it can help balance human memories and views of their surroundings.
2. Appreciation function, this is an exhibition function which has benefits as a medium in conveying inspiration to students so that visitors can give appreciation to students' final projects.
3. Achievement function, this is an exhibition function that helps spur Final Project students to excel and also produce inspiring works.
4. Recreation function, this is an exhibition function which has the benefit of being a medium for relaxation and to get away from the struggle to complete the Final Project course which drains a lot of energy and also thoughts.

2.3 Unified Modeling Language (UML)

Unified Modeling Language is a technique in designing and documenting software systems. Like other languages, UML defines notation and syntax / semantics. UML notation is a set of special shapes for describing various software diagrams. Each form has a specific meaning, and the UML syntax defines how the forms can be combined. UML has many diagrams that are used to model data and systems including:

1. Use Case Diagram
2. Activity Diagram
3. Class Diagram

Use Case Diagrams are used to describe the relationship between systems and actors. An actor is a human or machine entity that interacts with the system to perform certain jobs. Figure 1 is an example of a use case diagram. [3]

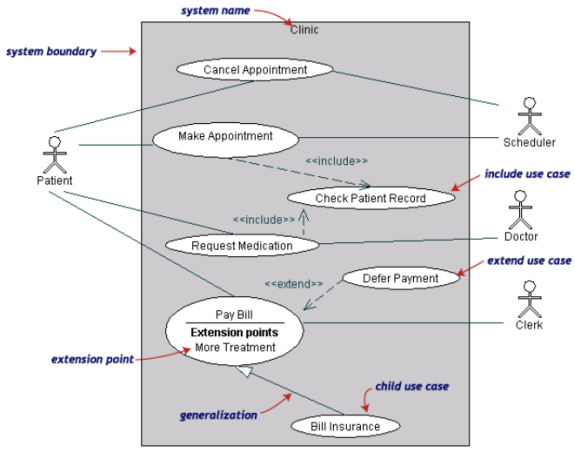

Figure 1 Example of Use Case Diagram

2.4 Database

In general, the software creation cycle requires a database modeling. This database will collect and store

related data. Database modeling has three stages, namely [4]:
1. Exploring the data needs to be processed from the user
2. Design a diagram and describe the relationship between each section
3. Creating a database in accordance with the agreed design in the second stage

There are three types of models from the database, namely, hierarchical models, network models, and relational models. In the hierarchical model, all data are arranged in a hierarchy like a tree (parent-child). The network model was developed to replace the hierarchical model where the concept of many to many or one to many relationships can be applied. The relational model was first introduced by E. Codd around 1970. Codd realized that in the previous two models, data files could not be linked and the tables in the database were not clearly structured [5].
MySQL is a database engine or database server that supports the SQL database search language. MySQL is a multithreaded, multi-user SQL database management system software or DBMS. MySQL AB makes MySQL available as free software under the GNU General Public License (GPL), but they also sell it under a commercial license for cases where usage is incompatible with GPL usage. [6].

2.5 Black Box Testing

Black box testing is a set of functional specification testing activities without testing the design and program code. Testing is used in order to find out whether the function is in accordance with the design.

Equivalence Partitioning is a black box testing method that divides the input domain of the program into classes so that test cases can be obtained. Equivalence Partitioning seeks to define test cases that find a number of types of errors, and reduce the number of test cases that have to be created. Test cases designed for Equivalence Partitioning are based on an evaluation of the equivalence classes for input conditions that describe a set of states that are valid or not. An input condition can be a specification of a numeric value, a range of values, a set of related values or a boolean condition.

Class equivalence can be defined according to the following guidelines:
1. If the input condition specifies a range, one is valid and two are interpreted as invalid equality class.
2. If the input requires a value, the specified condition is one valid and two invalid equality classes are interpreted.
3. If the input condition specifies a member of the set, one valid and one invalid equality class are interpreted.
4. If conditions are input, boolean one valid and one invalid class is interpreted [7].

2.6 User Acceptance Testing

User Acceptance Testing is a testing method that is carried out at the final stage of creating an application. Used to find out whether there are still defects in the application being developed. UAT is usually done by the end user, and does not focus on small findings such as wording or application crashes as this kind of thing will usually be done at the beginning of the phase. UAT itself has several types of testing such as:
1. Alpha & Beta Testing
2. Contract Acceptance Testing
3. Regulation Acceptance Testing
4. Operational Acceptance Testing
5. Black Box Testing

Alpha Testing is usually done in the scope of development and is carried out by internal parties. even long before the app was released to external testers. based on feedback → the results of alpha testing will usually be improved to improve the functionality of an application.
Beta Testing If alpha testing is done internally then beta testing is carried out in the field and involves some extensive testing by a group of users. These beta testers then provide feedback, which generally leads to product improvement [8].

3 Analysis and Design

The following is an application design that has been produced. Figure 2 Use Case Diagram of Final Project Exhibition Website.

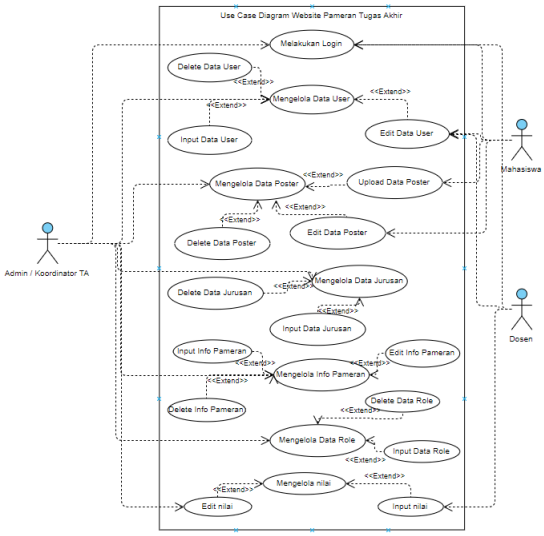

Figure 2 Use Case Diagram of Final Project Exhibition Website

Figure 3 is the home page that displays announcements about the exhibition schedule and displays the poster files. At the top there is a login button, if pressed it will go to the login page.

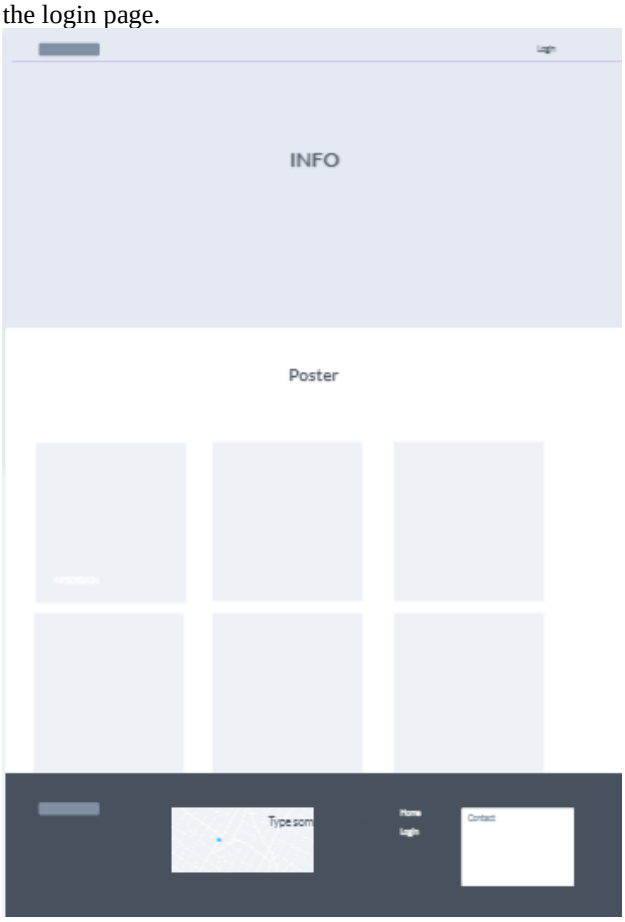

Figure 3 Home Page Views

Figure 4 is an added poster page that displays the form used to input poster files. Furthermore, there is also an input button which when pressed functions to input the poster file.

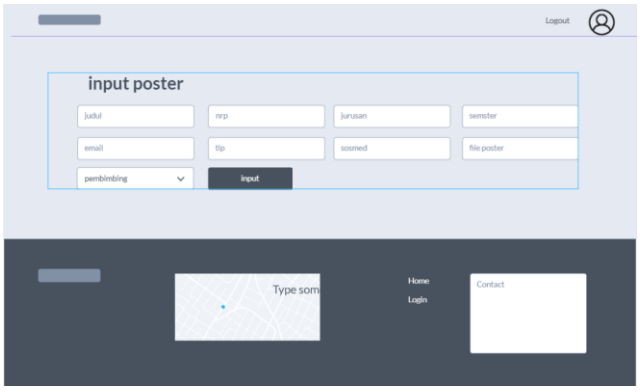

Figure 4 Upload Poster Page

Figure 5 is a user edit page that displays a form for editing user data.

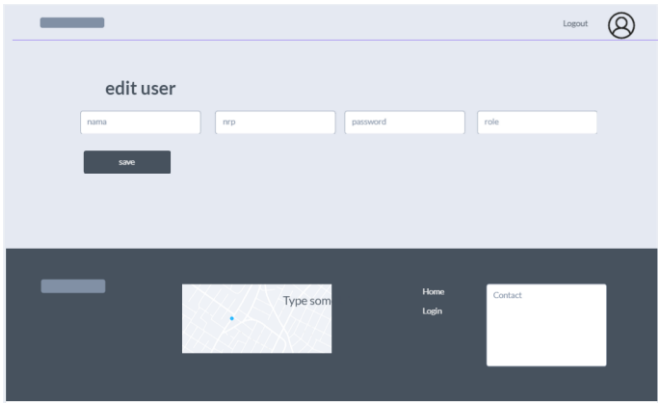

Figure 5 Edit User page

Figure 6 is a page for managing users that displays the form used to input users. Then it also displays user data and there is also a button to import user data from the CSV file.

Figure 6 Pages for Managing Users

Figure 7 is a manage poster page that displays a money form used to view poster data, to delete poster data.

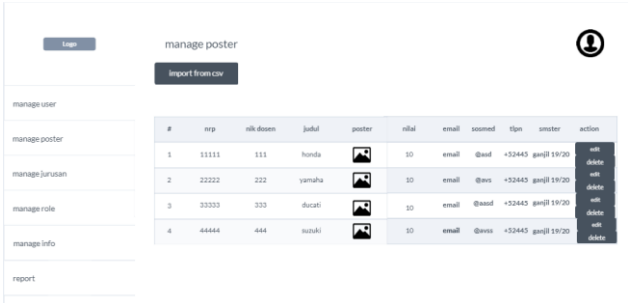

Figure 7 Pages for Managing Posters

Figure 8 is a report page. On this page contains poster data that can be selected by semester and there is also a button to export all data and grades.

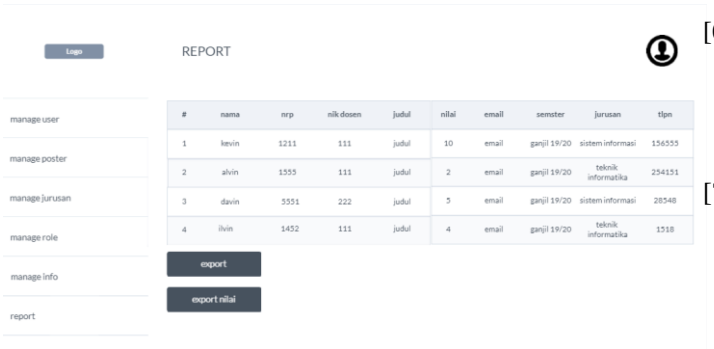

Figure 8 Display Report

4. Conclusions

This research will produce an application design that can be used to manage student data who have completed all the processes in the Final Project Course and become a participant in the Student Final Project Exhibition in the Undergraduate Informatics Engineering Study Program.

This research will produce an application design that can be used to show the Final Project Work of students in the Informatics Engineering Undergraduate Study Program.

References

[1] P. Ibeng, "https://pendidikan.co.id/," 24 03 2020. [Online]. Available: https://pendidikan.co.id/pengertian-pamerantujuan-manfaat-jenis-dan-menurut-ahli/. [Accessed 09 06 2020].

[2] G. Pendidikan, "Pameran : Pengertian, Tujuan, Fungsi, Unsur, Prinsip, Manfaat & Jenisnya Lengkap," 31 08 2019. [Online]. Available: https://seputarilmu.com/2019/08/pameran-adalah.html. [Accessed 09 06 2020].

[3] L. P. Dewi, U. Indahyanti and Y. Hari, "Pemodelan Proses Bisnis Menggunakan Activity Diagram UML dan BPMN (Studi Kasus Frs Online)," *Seminar Nasional Teknik Industri Waluyo Jatmiko V*, 2012.

[4] Salamadian, "BASIS DATA : Pengertian, Komponen dan Sistem Basis Data (Database)," 9 April 2018. [Online]. Available: https://salamadian.com/pengertian-basis-data-database/. [Accessed Mei 2019].

[5] S. Bagui and R. Earp, Database Design Using Entity-Relationship Diagrams, Florida: CRC Press LLC, 2003.

[6] Fikriansyah, "Apa itu MySQL, Sejarahnya dan Fungsinya," TutorialPedia.Net, 15 November 2017. [Online]. Available: https://www.tutorialpedia.net/apa-itu-mysql/. [Accessed 7 May 2019].

[7] M. S. Mustaqbal, R. F. Firdaus and H. Rahmadi, "Pengujian Aplikasi Menggunakan Black Box Testing Boundary Value Analysis (Studi Kasus: Aplikasi Prediksi Kelulusan SMNPTN)," *Jurnal Ilmiah Teknologi Informasi Terapan 1.3*, Vols. Volume I, No 3, 10 Agustus 2015, no. ISSN : 2407 - 3911, pp. 31-36, 2015.

[8] Niar, "User Acceptence Test (UAT)," 11 Oktober 2018. [Online]. Available: https://medium.com/@niarsdet/user-acceptance-test-uat-7f3f06ede26c. [Accessed 13 Oktober 2019].

[9] A. Kadir, Membuat Aplikasi Web dengan PHP + Database MySQL, Yogyakarta: Andi, 2009.

[10] A. Mulyanto, Sistem Informasi Konsep & Aplikasi, Yogyakarta: Graha Ilmu, 2009.