

APPLICATION OF THE USER EXPERIENCE LIFECYCLE METHOD ON THESIS OF YOUR DATA PROCESSING INFORMATION SYSTEM STMIK FIELD WORK PRACTICE REPORT YMI TEGAL

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ARTICLE INFO		ABSTRACT
Received:	02-04-2022	Educational institutions really need a data processing information system in carrying out their work activities because they are seen to be more organized and directed with the support of adequate computer equipment. STMIK YMI Tegal is a computer-based high school, but at the UPT bureau of the library as the inventory and management of PKL and Thesis reports, there is no information system facility for processing data on PKL and Thesis report titles. In its management, it still uses the manual method, which is recorded in a ledger, so it feels slow and not well organized. So in this study, the author tries to create a Data Processing Information System for PKL Reports and Thesis, which is specifically to provide information on title data for PKL reports and Thesis to the academic community of STMIK YMI Tegal. The method used in this study is the User Experience Lifecycle method, which is the method proposed by Hartson and Pyla to develop user experience by focusing on usability and user experience aspects. This method is divided into four stages, namely analysis, design, prototype, and evaluation. With this PKL and Thesis Report Data Processing Information System, it is expected to be able to help the UPT Library bureau in processing PKL and Thesis report title data and make it easier for students to search for PKL or Thesis report titles online.
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INTRODUCTION

Information title thesis and report practice work field (PKL) is still very difficult for accessed by parties in academics / internal (students) and parties outside academics / external (public). During this title only can seen in the script already printed recorded in the library, p this not enough good in processing title saved script. Information title thesis and report practice work field (PKL) is still very difficult for accessed by party in academics / internal (students) and parties outside academics / external (public). the long this title only can seen in the script already printed recorded in the library , p this not enough good in processing title saved script (Melani, 2021).

In this era, information is considered to be the necessity of life of all people such as clothing, food and board (Yamahata & Shibata, 2020). In many ways information has been able to shake various areas of people's lives which include the fields of Economics, Socio-Culture, Technology and Science

(Negara, 2020). With the development of science and information technology has changed the way of view and lifestyle of Indonesian people in carrying out their activities. The existence and role of information technology has brought a new era of development in all fields, but these developments have not been balanced with the improvement of human resources that determine the success of the institution's goals. Information is any form of communication that adds understanding and knowledge, which is useful for the recipient of the information (Keller, 2013). Information is like blood flowing in the body of an organization. The source of information is data, which is reality that describes real events and real unity. Data is a form that is still raw that cannot tell much, so it needs to be processed further. Data is processed through a model to produce information.

Development of student enrollment information new web-based online systems aims to provide a new student registration information system design online, help and facilitate performance in the admission of new students, understand about performance in schools, especially in SMK Pelopor Nasional Ciputat and analyze problems that may not lead to computerization in smk Vanguard Nasional (Sudrajat, 2011). The research methodology carried out is by the method of collecting data in the method there are literature studies, field studies (observations, interviews, questionnaires), similar literature, namely studying books of similar research results before that have been used by others. And the system development method is the system development life cycle or System Development Life Cycle (SDLC). (Kramer, 2018).

In the research conducted by (Wardianto, 2011) titled : Design an online registration application for multimedia-based treatment services at the main clinic of Siti Aksar depok, Aiming to build a multimedia-based online registration application packaged in the form of a web that is useful as a queue registration for dental medical services and a means of informing about the services offered by the main clinic Siti Aksar, creating a multimedia-based online registration application that combines macromedia flash 8, PHP and Mysql so that it can facilitate the update of Siti Aksar's main clinic services. The methodology used is a method of data collection, namely literature studies: done by reading and studying books, references that support the topics that will be discussed in the preparation of this thesis, in addition the author also collects data from internet sites related to this research, field studies (observations, interviews), Similar literature studies, system development methods, system development methods used by researchers to develop this application are with Rapid Application Development (RAD).

STMIK YMI Tegal is a agency education high school (High School) based computer with own two major namely Informatics Engineering (Strata 1) and Systems Information (Strata 1), from second major the no far from knowledge management information and knowledge computer (computer science), only differentiate system and flow course .

STMIK YMI Tegal has use system information academic in the academic and financial , will but for UPT library section as party inventory and management PKL reports and Thesis , not yet existence means system information for processing information title street vendors report and thesis . In processing , still use manual with notes book big , felt slow and less registered with good .

With problem the so needed system information PKL report data processing and Thesis use which UX Lifecycle method title could seen by electronic by public for browse title street vendors report or Essay with easy .

METHODS

Study this use method adapting "The User Experience Lifecycle" by Hartson and Pyla (Hartson & Pyla, 2012) . Framework thinking used in research this could be seen in Figure 1. Stage first the data collection process is carried out through Interview with Party Academic and questionnaire online shared with Students _ for strengthen results interview . Result of the two processes done analysis for get formula problem (Wardhana & Fitriana, 2021)

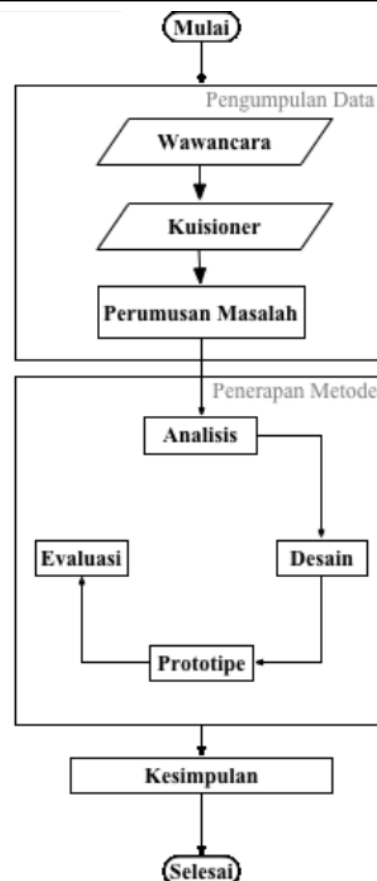


Figure 1. Method Study

Stage second that is application user experience lifecycle method consisting of from four processes (Hartson & Pyla, 2012) , namely :

1. Analysis

The analysis based on results online interviews and questionnaires in the stage previously through activity making system concept statements, contextual inquiry, contextual analysis, extracting requirements, and design informing models (Wardhana, Fani, Adila, & Raharjo, 2020) .

2. Design

Design process was based on results analysis through making design thinking and ideation, conceptual design and design production (Wardhana, Anggraini, & Rozy, 2021) .

3. Prototype

Implementation results designs made on previous stage through making web -based high fidelity prototype using language PHP programming and MySQL database. Framework used are bootstrap and codeigniter (Rahayu, ES & Nuryata, 2011) .

4. Evaluation

Evaluation done use shared online with counting scale likert to candidate user party app _ academics and students (Wardhana, Anggraini, Rozy, et al., 2021)

RESULTS AND DISCUSSION

A. Result

1. Analysis

a. System Concept Statement

Development technology information have very important role in the something business create progress in all designated field for interest humans in general. Development technology information make computer as a medium important in the world of technology information. Computer could process desired data in accordance with need something

agency or organization. Computer is a medium that can give convenience for man in complete something job. Technology information is one example product developing technology fast that can help man in processing data and serve a quality information. Information title thesis and report practice work field (PKL) is still very difficult for accessed by party in academics / internal (students) and parties outside academics / external (public). the long this title only can seen in the script already printed recorded in the library , p this not enough good in processing title saved script.

b. Contextual Inquiry

At stage this conducted surveys and interviews for see problem actually based on experience happening user in the field . Survey done with spread 8 questions to 13 respondents and interviews done to one respondents .

c. Contextual Analysis

Flow Model is your drawing of the working domain, its components and the interconnections between them , and how things done in that domain . *Flow Model* capture connection plot work between role work main . *Flow Model* telling you who To do what and how different entity communicate for got work finished. In *Flow Model* above there is a number of entity namely Admin and Users (Students and Lecturers).

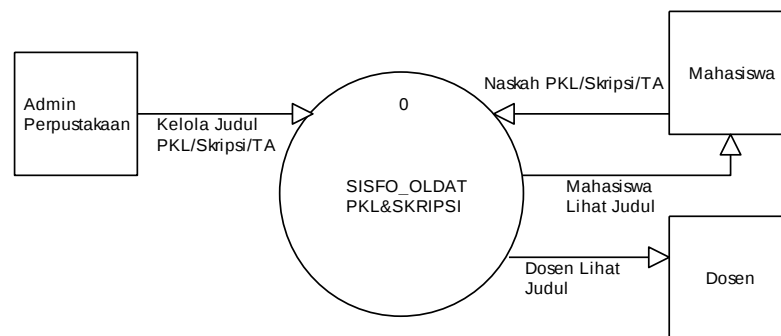


Figure 2. *Flow Model* Application

d. Extracting Design Requirements

Result of *Work Activity Affinity* Diagrams can be implemented to in table *extracting design requirements* . In Table 2 contains features what just could implemented and not or not yet could implemented moment this .

Table 1. *Extracting Design Requirements ID*

ID	Work Activity Note	System Requirements	Feasibility
A.1	Student Data Form	Main feature	✓
A.2	Lecturer Data Form	Main feature	✓
A.3	PKL Title Transaction Form	Main feature	✓
A.4	Thesis Title Transaction Form	Main feature	✓
A.5	Final Assignment Title Transaction Form	Main feature	✓
B.1	Report Form street vendor title	More Features	✓
B.2	Report Form Thesis title	More Features	✓
B.3	Report Form Title of thesis	More Features	✓

e. Design Informing Model

Social Model used as guide , for Upgrade communication , strengthen values positive overcome the problem of people in the role and accommodate influence . Social Models generate design that sees all identified barriers _ in the model and finish the problem they represent . There are 3 components main in *social model* as in Figure 4 which consists of from internal and external components .

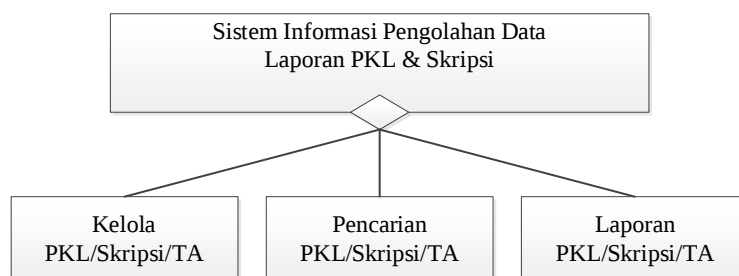


Figure 4. Social Model

2. Design

a. Design Thinking

Design thinking done with persona creation and sketching description of the data access process through designed application . _ The elements of the persona are based on to need Academic Libraries and Users (Students and Lecturers) by results interviews and questionnaires at the stage analysis . As for the persona can be seen in Figure 5.

Halaman Publik

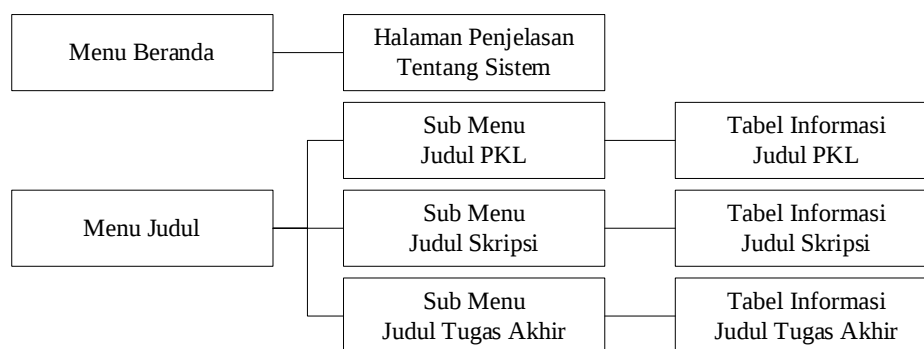


Figure 5. Person Sketch

Sketch in context *User Experience* is part of the *design thinking process* that describes all possibility design interaction for fulfil *requirements* . There is four *layout* that is for Explanation Page About System , PKL Title Sub Menu, Title Sub Menu Thesis and Sub Menu Title Final Project.

b. Conceptual Design

Draft interaction design showed through *frames* order that describes connection user with system this . Scenario before use system this namely BAAK submit Manuscripts & CDs

of PKL Reports and Thesis to Head of UPT Library , Signing Proof submission PKL Reports and Thesis by both parties (BAAK and Ka.UPT Library), Head of UPT Library label every script PKL Reports and Thesis with based on number sequence and year , Head of UPT Library note on the book big in the form of number sort, nim, name, title, and year, Ka.UPT Library inventory the script already labeled with put on the shelf book classification creation scientific , Head of UPT Library save a CD (*softcopy file*) from PKL Reports and Thesis , Students visit library and fill book guest , student look for title PKL report or Thesis that will be read on the shelf classification creation scientific , student read PKL report or Thesis , Student putting return PKL report or Essay in place where report the taken . Figure 7 is *storyboard* after use system this .

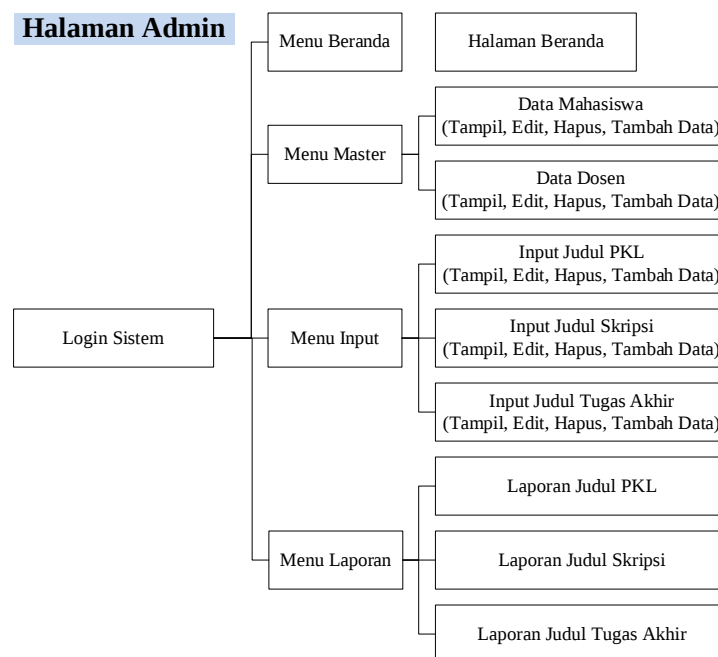


Figure 6. Storyboard

c. Prototype

Prototype is a design process from system original / prototype . Prototype alone is a model of a possible product model _ not yet own all feature product actually however already own feature main from a product and can used as need for testing before continue to making product actually . *Medium Fidelity Prototype* is a the *prototype* already describe more designs _ detail as coloring and drawing . In this design we use _ *prototype* type this because more fast and can direct done evaluation . Production result *prototype* could seen in Figure 7.

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SISFO OLDAT Laporan PKL & Skripsi

Beranda Master Input Judul Laporan Selamat Datang : Tri Looke Darwanto Logout

DATA MAHASISWA

Tambah Data Import Data

Cari No Induk>Nama/Alamat/No HP Mahasiswa

Pencarian...

No.	No. Induk MHS	Nama Lengkap	Jenjang	Jurusan	Alamat	No. HP	Aksi
1	09075077	Zaenul Arif	Strata 1	Teknik Informatika	Penyalahan Jatinegara	085722111444	Edit Hapus
2	09075078	Tri Looke Darwanto	Strata 1	Teknik Informatika	Desa Karang Wuluh Suradadi Kab. Tegal	085743166338	Edit Hapus
3	09075079	M. Afandi	Strata 1	Teknik Informatika	dsfd	085625111133	Edit Hapus
4	09075080	Dwi Untung Prayitno	Strata 1	Teknik Informatika	dthf	085625111133	Edit Hapus
5	09075081	Panca Setyowati	Strata 1	Teknik Informatika	fgdfgfg	085743166339	Edit Hapus

1 2

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Figure 7. Student Data Prototype

SISFO OLDAT Laporan PKL & Skripsi

Beranda Master Input Judul Laporan Selamat Datang : Tri Looke Darwanto Logout

DATA DOSEN

Tambah Data Import Data

Cari No Induk>Nama/Alamat/No HP Dosen

Pencarian...

No.	No. Induk Dosen	Nama	Alamat	No. HP	Status	Aksi
1	10050164	Sri Anjarwati, M. Kom.	Desa Warureja Kecamatan Warureja Kabupaten Tegal	085625111133	Pembimbing 1	Edit Hapus
2	10060423	Aang Alim Murtopo, M. Kom.	Desa Pangkah Kecamatan Pangkah Kabupaten Tegal	085722111444	Pembimbing 2	Edit Hapus
3	19770726 200501 1 001	Bangkit Indarmawan Nugroho, S. Kom.	Kelurahan Debong Wetan Kecamatan Tegal Selatan Kota Tegal	085743166339	Pembimbing 1	Edit Hapus
4	D01	Riolita Butsia Anggraeni, M. Pd	Kelurahan Slawi Wetan Kecamatan Slawi Kabupaten Tegal	089883787878	Pembimbing 2	Edit Hapus
5	D02	Sarif Surejo, S.E., M. Kom.	Desa Bongkok Kecamatan Kramat Kabupaten Tegal	085743166339	Pembimbing 2	Edit Hapus

1 2

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Figure 8. Student Data Prototype

SISFO OLDAT Laporan PKL & Skripsi

Beranda Master Input Judul Laporan Selamat Datang : Tri Looke Darwanto Logout

INFORMASI JUDUL LAPORAN PKL

+ Input Judul

Cari NIM>Nama/Judul

Pencarian...

No.	No. Induk MHS	Nama MHS	Judul Penelitian	Tempat Penelitian	Pembimbing 1	Pembimbing 2	Tanggal Ujian	Penguji 1	Penguji 2	Tempat Penyimpanan	Aksi
1	09075077	Zaenul Arif	Sistem takshdkajs aksjd	asdasd	Eka	Dwi	2014/08/10	Tree	Catur	Rak 35 Kolom. 1. Baris.2	Edit Hapus
2	09075078	Tri Looke Darwanto	asdg	asdg	Eka	Dwi	2015/08/09	Tie	Dwile	Rak 35 Kolom. 1. Baris.2	Edit Hapus
3	09075079	M. Afandi	asfsa	asfs	Panci	Catur	2015/08/12	Tree	Dwile	Rak 1. Kolom.2. Baris.3	Edit Hapus

1

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Figure 9. Prototype of PKL Report Data

No.	No. Induk MHS	Nama MHS	Judul Penelitian	Tempat Penelitian	Pembimbing 1	Pembimbing 2	Tanggal Ujian	Penguji 1	Penguji 2	Tempat Penyimpanan	Aksi
1	09075077	Zaenul Arif	Sistem lakshdaks aksjd	asdasd	Eka	Dwi	08/02/2015	Tree	Catur	Rak. 35, Kolom. 1, Baris. 2	Edit Hapus
2	09075078	Tri Looke Darwanto	Sistem ihfjghf	jhtkj	Eka	Dwi	09/08/2015	Tie	Dwie	Rak. 54, Kolom. 6, Baris. 7	Edit Hapus

Figure 10. Thesis Data Prototype

3. Evaluation

At stage Here , the SUS questionnaire is distributed to 11 respondents after try *prototype* application . Amount participant for To do testing *usability* according to Nielsen , namely 5 participants (Wardhana, Anggraini, Rozy, et al., 2021) , so selection of 11 respondents already fulfil minimum standard. Problem main delivered respondents on search reference title is manual search that took too long so eat enough time a lot. Furthermore, respondents requested To do test use *prototype* that has been designed with fill in 10 questions SUS questionnaire. Assessment results respondent to design application obtained an average of 76.46. Based on scale evaluation curve Sauro -Lewis, rate the included at level B (Good).

CONCLUSION

Use method design that pays attention to usability and performs evaluation to candidate user is needed for validate worthy or whether or not a design application . It is very important before To do production application because reduce suggestion personal developer application in designing interfaces. Use User Experience Lifecycle method in planning application succeed done with got the value of 76.46 or B (Good) which proves that design already pass standard value 67 or C (Enough) for could next to Step production or can lifecycle again for got results more maximum .

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