Keep The Business Running (KTBR) Data Center

by

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CERTIFICATION OF APPROVAL

Keep The Business Running (KTBR) Data Center

For KTBR team

In Enabling User Tool (EUT) Point of Performance (POP) department, Intel Technologies Sdn. Bhd. Penang, Malaysia

By

Nor Lyana Binti Mohd Hamka

A paper project submitted to the

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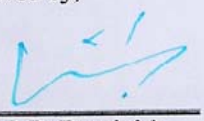
Universiti Teknologi PETRONAS

In partial fulfillment of the requirement for the

BACHELOR OF TECHNOLOGY (Hons) INFORMATION & COMMUNICATION TECHNOLOGY

Approved by,



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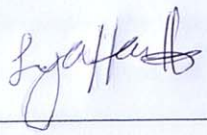
CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and that the original worked contained herein have not been undertaken or done by unspecified sources or person.



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Information & Communication Technology

Abstract

Web based centralizedsystem is an online system that has all its data on one place for easy access by users. The usage of such system among organization has increases over the time due to the advancement of technology that corporate helps to improve work performances and employees efficiency. In order optimize the usage of technology towards the betterment of an organization; integration of information among departments is very crucial. Interactive platform is needed to allow smooth exchange of information. This is where Keep The Business Running (KTBR) Data Center play its role in Enabling User Tool (EUT) Point of Performance (PoP) department in Intel Technologies, Penang, Malaysia to better improvise the current method of their work execution.

This paper discuss about the implementation ofintegrated system using the concept of Enterprise Resource Planning (ERP) and Agile system development method that focus on addressing problem faced by EUT PoP department in their data management difficulties. The aim of developing the system is mainly to provide a platform that allows data communication and integration across the department and their related client. The system will be able to solve problems such as; the absence of centralized request submission form collection and lack of project details being shared within the department. This will allow both client and KTBR team to be able to perform task proficiently using IT applications which will improve work performance by obtaining just-in-time and just enough information.

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1.0 Introduction

1.1 Background of Study

Keep The Business Running (KTBR) Data Center is a web based centralized system integrated using the concept ofEnterprise Resource Planning (ERP). The system is used for KTBR team in managing processes involving materials from Intel Corporation employee training courses. These materials consist of courses from different parts of departments available in Intel Corporation worldwide and are used to train the newly employed employees on what they need to know about the main work their department does, the pre-requisite needed before they can start on hands on work and also the general training they need to go through as an Intel new hire.

The KTBR Data Center system collect previous information stored in Microsoft Excel format (.xls) and gather and store it in web based online server. Information stored in the data center are based on 3 different content platforms namelyMyLearning, a web based storage to retrieve online courses, Performance Support Manager tool (PSM) and Content Management System (CMS) using Joomla; an open source based system.

This system function to support 3 different users which are the Ticket Submitter; client for KTBR team that will send request regarding content that they managed, KTBR Team; the main user of the system to perform action as requested by ticket submitter and Admin; function to manage the system such as performing back up and assigning different role for KTBR team to access the system.

Ticket Submitter are able to send up to 3 request using 3 available forms in the system which are Change Request Form, Content End Of Life (EOL) Form and Content Submission Form. Change Request Form and Content EOL Form are used to request changes on currently available content in the system while Content Submission Form is used for Ticket Submitter to request for new course content to be included in the database.

1.2 Problem Statement

1.2.1 Problem Identification

- KTBR Team receives irrelevant tickets from “Contact Us” button.
  User mistaken KTBR role and Technical Assistance Center (TAC) role.

- No centralize request submission collection.
  All request received will go into every KTBR Team email. It’s confusing for the team to know who will be responsible to handle the request.

- Monitoring/tracking ticket can be complex with different material platforms when tickets are not categorized systematically.
  User submits ticket without specifying which platform the course is in.

- The absence of project detail being shared or make available within the department.
  Great knowledge gap among the team that has caused the inefficient use of project’s information for internal process such as project transition or benchmarking operation model to other unit/project

- Messy data storage using Microsoft Excel
  Hard to retrieve data in mass and messy storage.

- Shows unnecessary info instead of required info.
  Dumping data storage result in showing all info instead of the necessary ones.

1.2.2 Significant of the Project

KTBR Data Center is needed to overcome problems encountered during the usage of previous method of storing data. Based on the findings from questionnaire survey collected among KTBR Team, result shows that the usages of KTBR Data Center manage to improve the team's work performance and no more irrelevant tickets received.

Several feedbacks from clients who submit request tickets were also received. From the overall feedbacks, clients responded positively with the new system used. Clients managed to communicate their request clearly and able to specify different materials platform easily. The new system improves onusability in terms of user's experience.

1.3 Objective and Scope of Study

1) Develop documentation for KTBR Data Center system
2) Develop prototype model
3) Test and implement the prototype model to the organization.

The scope of study in this project is KTBR team in Enabling User Tool (EUT) Point of Performance (PoP) Department, in Intel Technology Sdn. Bhd., Penang, Malaysia.

1.4 The Relevancy of the Project

- Ensuring both client and KTBR Team are able to perform tasks proficiently using IT applications.
- Providing easy to understand user interface without having user to go through manuals to use and understand the system.
- Improve work performance by providing just-in-time and just enough information.
- Reduce irrelevant ticket received from clients.
- Improve database management.

1.5 The Relevancy of the Project within the Scope and Time Frame

Current method used by KTBR Team in handing data information is by dumping it all in Microsoft Excel which result in difficulty to find exact data needed. The to-be- system proposed is to create one stop center of data collection and storage which will also support client input from request ticket submitted by them.

Based on technical feasibility, the required technology to develop the system is already available. The system will require basic workstation hardware such as laptop or a desktop and open source software which are PHP and MySQL. Programming language that will be involved in developing the system is internet programming language compromise of HTML, JavaScript as well as PHP and MySQL. All the required resources for software are available to be downloaded for free from the internet and as for the hardware, every member of KTBR Team have their own laptop or desktop provided on their workstation.

Looking into the operational feasibility, the project is supported by Intel's IT Enabling User Tool (EUT) Point of Performance (PoP) department where the manager itself acts as the project sponsor. The KTBR Team as the user themselves are also indirectly involved in the process of developing the system as their input in user requirements are taken to develop the system according to their specification. Thus, the concern whether the system will be used once if it's developed and implemented is not an issue as it is fully supported by the management team and the user themselves. They system can be seen to benefit the department as it helps to improve KTBR Team working efficiency and have a better teamwork performance.

2.0 Literature Review and/or Theory

2.1 No of References

30 references made based on online research, unpublished presentation, books and journal.

2.2 Critical Analysis of Literature

Enterprise resource planning (ERP) systems integrate internal and external management information across an entire organization, embracing finance/accounting, manufacturing, sales and service, customer relationship management, etc. ERP systems automate this activity with an integrated software application. Their purpose is to facilitate the flow of information between all business functions inside the boundaries of the organization and manage the connections to outside stakeholders.ERP systems can run on a variety of computer hardware and network configurations, typically employing a database as a repository for information.

In relation with KTBR Data Center, this work draws on two streams of previous literature: the work on the business value ofinformation technology and the more specialized literature on the value of ERPimplementations.

i) Business Value of Information Technology

There is an extensive literature investigating the business impact of information technology (IT) using a wide variety of methodologies and different levels of analysis. While work at the economy-wide level has typically shown equivocal results until very recently research at the firm-level has demonstrated that information technology investment has a significant effect on productivity levels, productivity growth, and stock market value of firms. Other research has also found some positive effects on internal performance metrics such as inventory turnover.

While much is known about the general effect of information technology on productivity, there is less understanding of the value of specific information technology applications and the factors that make a particular project or system more effective. Previous studies found that IT automation of postal sorting and toll collection had a significant effect on productivity.

Benefits were also found in research of the plant level for automated machine tools and for “advanced manufacturing technologies”, most of which are computer-related. Certain organizational practices such as the increased use of skilled workers and decentralized and team based organizational structures increased the value of IT investments. Using survey data it is found that firms that invested more heavily in business process redesign and devoted more of their IT resources to increasing customer value (e.g. quality, timeliness, convenience) had greater productivity and business performance. All of this research suggests that there can be positive benefits from the automation, process redesign activities and increased timeliness or output quality associated with successful ERP system deployment, although these effects in the specific context of ERP have not been previously studied statistically.

ii) Impact of ERP Implementation

There is a small but growing literature on the impact of ERP systems; the majority ofthese studies are interviews, cases studies or a collection of case studies and industry surveys. Studies shows the impact of ERP systems on self-reported company performance basedon a survey of 101 US implementers of SAP R/3 packages. Participating companiesreported substantial performance improvement in several areas as a result of their ERPimplementation, including their ability to provide information to customers, cycle times,and on-time completion rates.

The literature of ERPbenefits into four categories:

(1) Improve information flow across sub-units,standardization and integration facilitates communication and better coordination;

(2) Enabling centralization of administrative activities such as account payable and payroll;

(3) Reduce IS maintenance costs and increase the ability to deploy new IS functionality;

(4) ERP may be instrumental in moving a firm away from inefficient business processes and toward accepted best of practice processes.

A model based on organizationalinformation processing theory has been developed to explain the costsand benefits of ERP impact and validated using two case studies. There are arguments that somesuccessfully transformed firms (the “swans”) would enjoy these ERP benefits, however,others (the “ducks”) might not be able to benefit from such ERP implementation due tofirm- and site-specific differences.

The above studies on the impact of ERP systems suggest that there are potentiallysubstantial benefits for firms that successfully implemented ERP systems, though there islittle in terms of broad sample statistical evidence. The significance of ERP impact has started to attract more attention from the academics; a few special issues of leading academic journals have been edited or forthcoming.

2.3 Relevancy and Recentness of the Literature

The literature review is relevant to the project as it discuss on the business impact of ERP on organization. These researches are essential to convince user that the new system will simplify their current method of carrying out work.

However, KTBR Data Center only takes a part of ERP concept where it is not software as how ERP is like. KTBR Data Center is a web based system and does not require complex installation compare to ERP software. Any updates performed on the system will be done in the back end without having to interfere user's work activity.

Besides, the system is very specific that it only involves KTBR Team and their clients which does not have anything to do with other departments like finance and human resource. The system is fully catered for custom work within IT Enabling User Tool (EUT) Point of Performance (PoP) department.

3.0 Methodology

3.1 Research Methodology

Objectives

1. To study the factor that affects KTBR Team work efficiency.
2. To find out the user's satisfaction level with the performance of their current work.
3. To study the user's perception regarding the current system implemented.
4. To find out what can be done to improve the current problem.

Data is collected through:

1) Primary Data

2) Secondary Data

Primary Data:

It is collected through survey technique by forming a systematically drafted questionnaire. In this project, questionnaires and surveys are used as an instrument in gathering and collecting the primary data. The questionnaires and surveys prepared contain relevant questions and information that are both close and open ended.

Secondary Data:

This data is collected from reference made through books, journals, magazines, research papers and form research made in the internet.

The method used for the research is Descriptive Research where it describes data and characteristics about the population or phenomenon being studied. Descriptive research answers the questions *who, what, where, when,* "why" and *how*. In this research, primary and secondary data are being used.

Data Collection Method: - Data collected through KTBR Team survey.

Data Collection Instrument: Well prepared structured questionnaires are used in the project, which includes questions to get information based on the objective of the research process.

Sample Size: Sample size of 10 Respondent taken.

Total number of Samples Rejected = 0

Total number of Samples Accepted = 10

Location: Building PG 12, Level 3, Intel Technology Sdn. Bhd., Penang, Malaysia

3.2 Project Activities

The project activities are divided into their respective functions and interfaces. Each of them are labeled with level of difficulties ranging from Easy, Intermediate and Difficult.

Functions	Level of Difficulties	Remarks
Login	Easy	
Logout	Easy	
Admin-Search (Add, Update, Remove)	Intermediate	
KTBR-Search (Update, EOL, Transfer, Reactive)	Difficult	
KTBR-Report	Difficult	
KTBR-Add	Easy	
KTBR-Upload Hits	Difficult	
KTBR-Quick Status	Easy	
SubmitForm-Email	Intermediate	
Session (15 minutes)	Intermediate	
Content Lock	Intermediate	

Interface	Remarks
Main Page	
Admin Home Page	
KTBR Home Page	
Admin-Add User Page	
Admin-Search Page	
KTBR-Search Page	
KTBR-Report Page	
KTBR-Add Page	
KTBR-Upload Page	
KTBR-Quick Status Page	
Change Request Form	
Submission Form	
EOL Form	
Tranfer Form	
PSM Add Form	
MyLearning Add Form	
CMS Add Form	

Table 1: Project Activities

3.3 Key Milestone

The significant project activities marked as project milestone starts from Week 1-15.

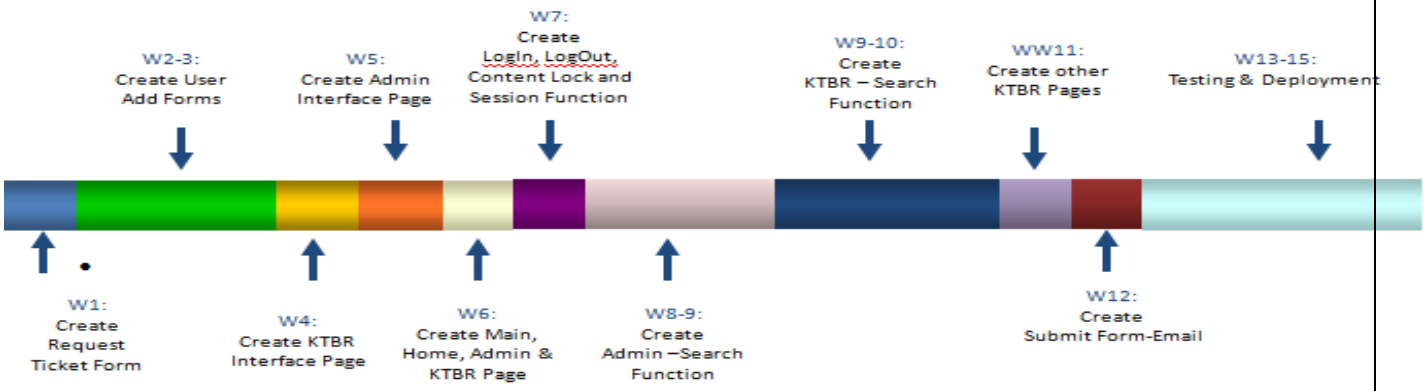


Figure 1: Key Milestone

3.4 Gantt Chart

Gantt chart marked the division of time allocated to develop specific functions and interface of the system.

ACTIVITIES	WEEK NO / DATE														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Create Request Ticket Forms (Submission, EOL, Transfer)															
Create User Add Forms (Transfer, PSM, MyLearning, CMS)															
Create KTBR Interface Page (Search, Report, Add, Upload, Quick Status)															
Create Admin Interface Page (Add User, Search)															
Create Main, Home, Admin and KTBR Page															
Create Login, Logout, Content Lock and Session Function															
Create Admin –Search (Add, Update, Remove) Function															
Create KTBR – Search (Update, EOL, Transfer, Reactive) Function															
Create KTBR Pages(Report, Add, Upload Hits)															
Create Submit Form–Email															
Testing and Deployment															

Table 2: Gantt Chart

3.5 Tools

3.5.1 Hardware required: Regular laptop or desktop with the following recommended specifications:

Categories	Specification
CPU / processor:	2.3-GHz Intel Core i5-2410M
Operating System:	MS Windows 7 Professional (64-bit)
RAM:	4GB
Hard Drive Capacity:	500GB
Hard Drive Speed:	7.200 rpm
Hard Drive Type:	SATA Hard Drive
Screen Size:	15.6
Screen Resolution:	1366×768
Optical Drive:	DVD SuperMultiDrive
Graphics Card:	Intel HD 3000 Graphics
Video Memory:	Shared
Wi-Fi:	802.11b/g/n
Wi-Fi Model:	Atheros AR9285
Bluetooth:	Bluetooth 3.0
Touchpad Size:	3.6 x 2.1
Ports (excluding USB):	Ethernet, HDMI, Headphones, Kensington Lock, Microphone, USB 3.0, VGA
USB Ports:	4
Card Slots:	1 card reader

Table 3: Hardware Specifications

3.5.2 Softwarerequired: Three open source software. Specification as below:

Software	Version
PHP	php-5.3.8-Win32-VC9-x86
MySQL	Mysql-installer-5.5.15.0
Microsoft .NET Framework 4	dotNetFx40_Client_setup

Table 4: Software Specifications

3.5.3 Tools used to develop the system: The system uses Internet programming language to codeandlink each functionalities to be working and
made available on the web. The programming languages used are HTML,JavaScript, PHP and MySQL.

3.5.4 Other tools used

Context Diagram

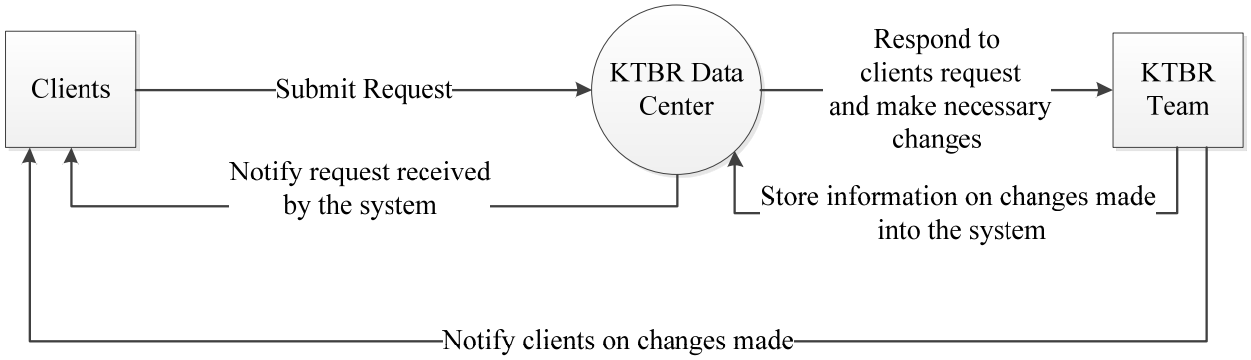


Figure 2: Context Diagram

The context diagram describe briefly the process on how the system works on both client and user side.

Use Case Diagram

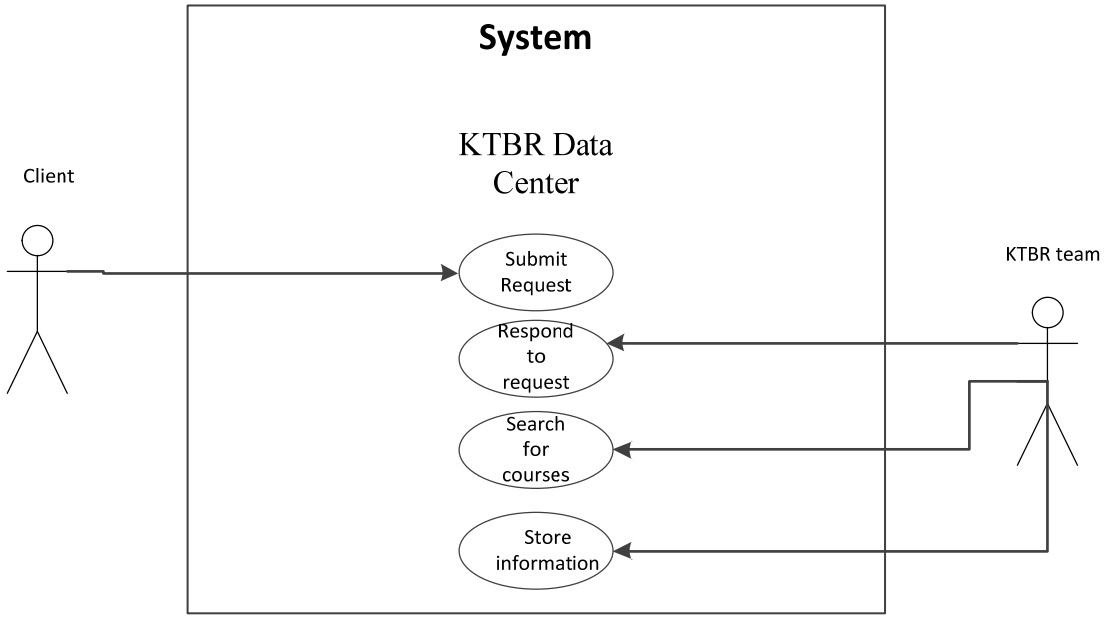


Figure 3: Use Case Diagram

Use case diagram is use to define interaction between actors which are the client and KTBR team, and a system to, achieve targeted goals.

Site Structure

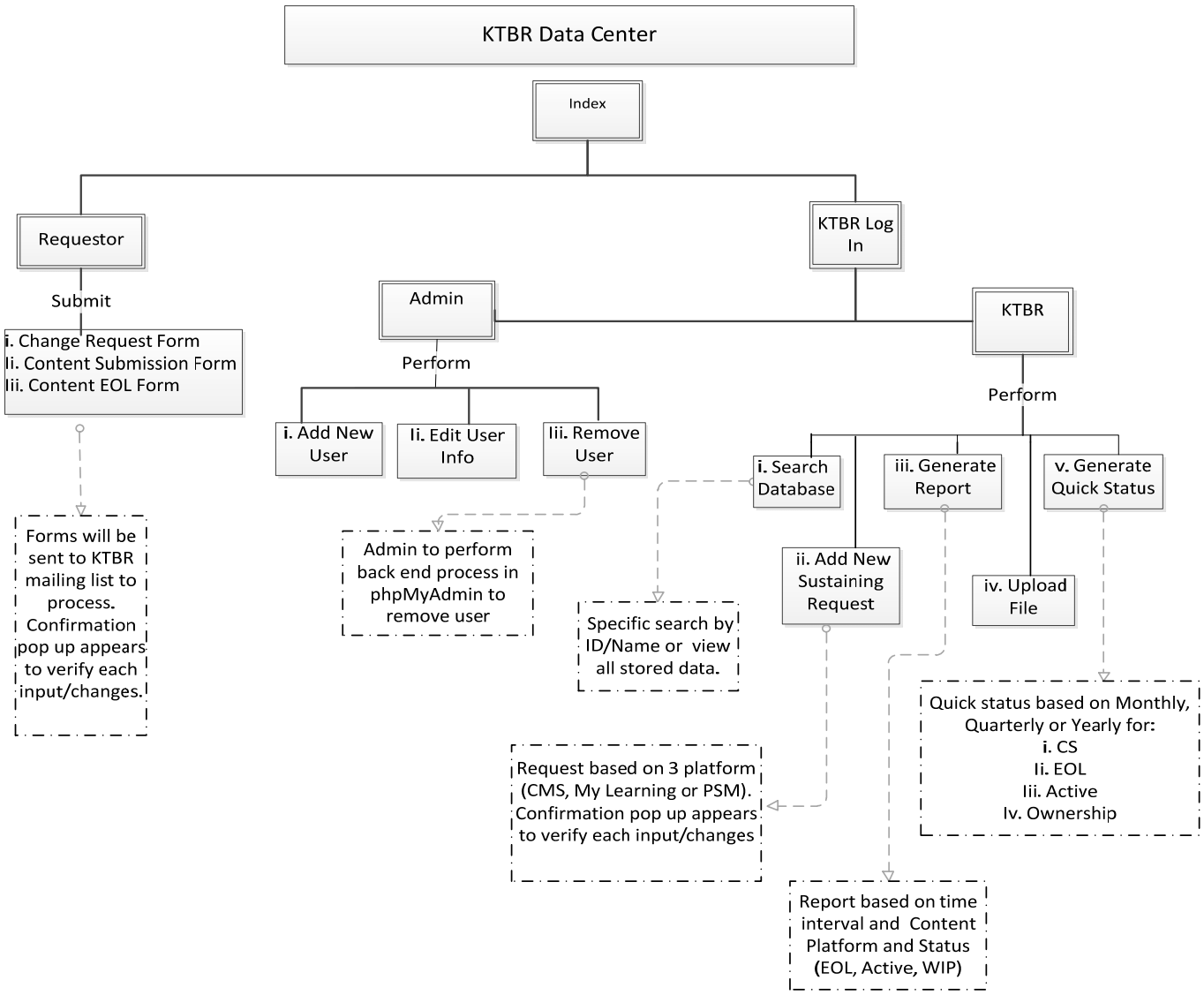


Figure 4: Site Structure

System ERD Diagram

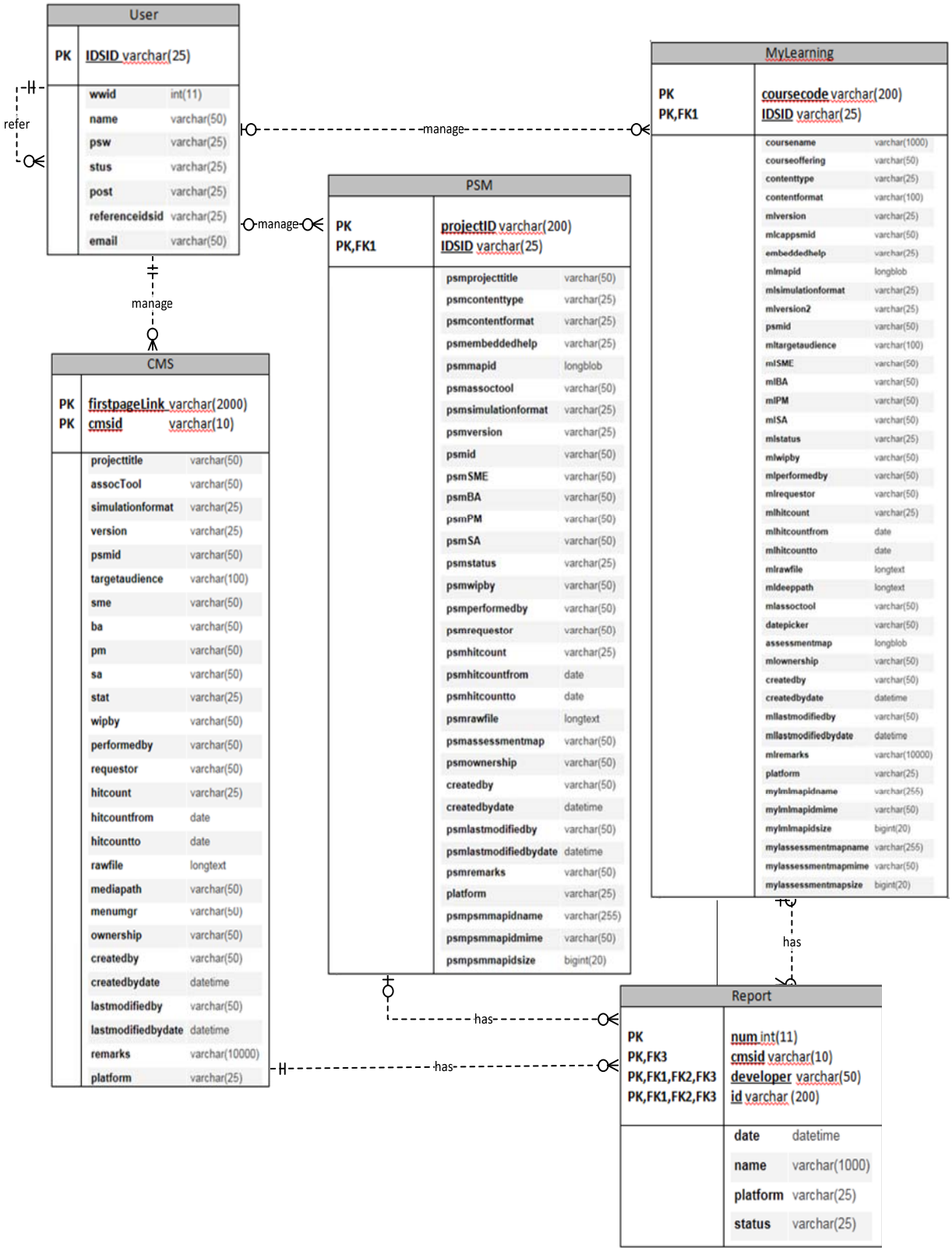


Figure 5: ERD Diagram

System methodology used: Agile development method.

Agile development method is referring to iterative development in building up a system where requirements and solutions evolve through collaboration between self-organizing, cross-functional depending on the requirements. It promotes adaptive planning, evolutionary development and delivery, a time-boxed iterative approach, and encourages rapid and flexible response to change. It is a conceptual framework that promotes foreseen interactions throughout the development cycle.

KTBR Data Center uses Agile development method as it break task into small incremental with minimal planning and do not involve long-term planning. Besides, it promotes a project management process that encourages frequent inspection and adaptation that allows rapid delivery which suits with the short period of time given in Final Year Project II (FYP II) in developing the system. As the system in built in Agile development processes, it uses feedback rather than planning as the primary control mechanism. This is where the KTBR team play its role. The development of the system will be based on their requirements and once the system prototype is done, their reviews and feedback will be taken to make changes and improvement on the prototype.

The main principles of the Agile Software Development process are:

i) Capture and define requirements at a high level
ii) User involvement is essential
iii) Develop small, incremental releases and iterate
iv) Focus on frequent delivery of system functionalities
v) Requirements evolve but the timescale is fixed
vi) Complete each feature before moving on to the next
vii) Testing is integrated throughout the project lifecycle – test early and often
viii) A collaborative & cooperative approach between all stakeholders is essential

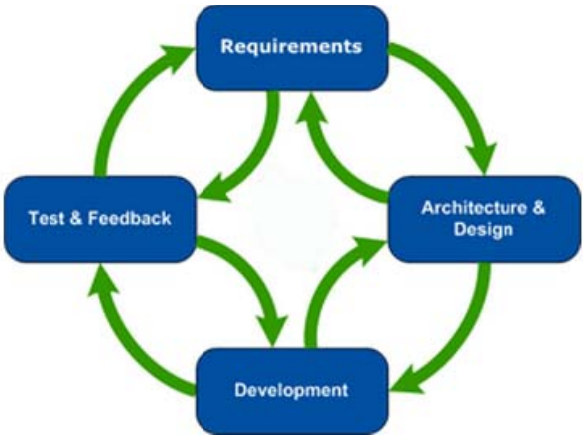


Figure 6: Agile development cycle

Requirements

First step in the Agile Software Development Process is to identify some high-level requirements as well as the scope of the release. This is to quick coding on system development to find out what works even quicker. As the requirements are not set in stone, the Agile method is more adaptable to changes in requirements as the project grows. Continuous input on requirements will be received from the client/user which are the KTBR team.

Architecture & Design

Architecture and design phase is defined using free-form diagrams to explore the technical infrastructure and the relationships between the system functionalities. The design will be explored until the KTBR team is satisfied that they understand what will be done to the system.

Development

The development phase uses an evolutionary method that is an iterative and incremental approach to the system development. The system is delivered incrementally over time, in small modules rather than building and then delivering a system in a single release. By focusing development on smaller modules, Agile projects are able to control costs despite the seeming lack of planning. Besides, it is also compatible with the timeline provided during FYP II

Test & Feedback

In Agile methodology, testing is conducted to the system as it is being developed. The system development is test driven. The unit testing is achieved from the developer's perspective and the acceptance testing is conducted from the KTBR team perspective.

4.0 Result and Discussions

4.1 Findings

Several issues were discovered throughout developing the system. The first issue is on system back up plan. A back up plan is required in case of system brake down due to errors that might occur. Step by step instructions on how to perform system back up is required for the reference of the KTBR team to handle such situation.

Besides back up plan, recovery plan to set up system from the very beginning is also important in case of total system failure. For such case to happen, external data storage in needed to keep the required files and installers to set up the system again. Saving the files in online storage such as Dropbox, SkyDrive and Google Drive are advisable. The usages of external hard disk or storage on another server are the other alternatives besides online storage.

Regular database backup need to be done to get up to date data and avoiding data loss in case of system failure occurrence. Database backup is done in the back end of the system using PhpMyAdmin. The database backup is advisable to be done one a week of optimum data usage. A step by step instruction for database backup is needed for the KTBR team reference to perform the action.

Full documentation on the system is required to function as a manual. This manual is for new user to better understand the system as a whole. Besides, it also functions as a guideline to perform system backup, database backup and system recovery.

Phase by phase training course are required for new users before they can perform hands on work using the system. By just reading through the full documentation is not enough as practical lesson is much more effective.

4.2 Data Gathering/Data Analysis

4.2.1.1 Data Gathering Requirement For Index Page

		Fields Label	Field Type	Options/Validation/ setting
1		**Change Request Form**		
	1	Type of Change	drop down	Content Update, Ownership Change*
		1.1*Ownership change to	Text field	"Example: Yong, Catherine" in the text field.
	2	Impacted PSM Project/ Course Title	Text field	"Example: PBS Online Help Portal or Wiings Basics"
	3	Impacted PSM Project/ Course ID	Text field	Numeric (36 or 8 digits only)
	4	Scope of Change	drop down	Minor, Major
	5	Expected Date (for change to take place)	Calendar	By default is today's date.
	6	Additional Description	Text box	
	7	Requestor Name in Outlook	Text field	
	8	Requestor Email	Text field	with "@intel.com"
2		**Content Submission Form**		
	1	PSM Project/Course Title	Text field	"Example: PBS Online Help Portal or Wiings Basics"
	2	PSM Project/Course ID	Text field	Numeric (36 or 8 digits only)
	3	Content Format	drop down	CMS, PSM, MyLearning
	4	Associated Tool/Application	Text field	Example: ISET, SPEED, SAP, Microstrategy or etc.
	5	Target Audience (ACE, ISET admin &etc)	Text field	
	6	Stakeholders		
		6.1 Subject Matter Expert (SME)	Text field	
		6.2 Business Analyst (BA)	Text field	
		6.3 Project Manager (PM)	Text field	
		6.4 System Analyst (SA)	Text field	
	7	Demo/Simulation/Video Raw file Format	drop down	Captivate 3,captivate 4, Camtasia, Flash.
	8	Raw Files Location (example: \\VMSEUTGAR007\ProjectName\)	Text field	
	9	Requestor Name in Outlook	Text field	
	10	Requestor Email	Text field	with "@intel.com"
3		**Content EOL Form**		
	1	PSM Project/Course Title	Text field	
	2	PSM Project/Course ID	Text field	Numeric (36 or 8 digits only)

	4	Associated Tool/Application	Text field	
	3	Stakeholders		
		3.1 Subject Matter Expert (SME)	Text field	
		3.2 Business Analyst (BA)	Text field	
		3.3 Project Manager (PM)	Text field	
		3.4 System Analyst (SA)	Text field	
	4	Raw Files Location (example: \\VMSEUTGAR007\ProjectName\)	Text field	
	5	Requestor Name in Outlook	Text field	
	6	Requestor Email	Text field	with "@intel.com"
	7	Expected Effective EOL Date	Calendar	By default is today's date.
	8	Rational/Reason (Example: Application tool has been EOL'd)	Text Box	

4.2.1.2Data Gathering Requirement For Homepage

	Fields Label	Field Type	Options/Validation/ setting
	Add New Sustaining Request		
0	Course/Project Platform If CMS/ If PSM project/ If MyLearning	drop down	**CMS, PSM, MyLearning**
1	Project/Course Title	Text field	Example: PSM Online Help Portal or Wiings Basics course
2	2.1 PSM Project ID	Text field	Numeric (36 digits only)
	2.1.1 Content Type	drop down	Tool Based, Business Process, Both
	2.1.2 Embedded Help	drop down	Yes/ No
	2.1.2.1 If Yes, "Map ID Attachment" field appears	Text field with browse button	
	2.2 Course ID	Text field	Numeric (8 digits only)
	2.2.1 Offering ID	Text field	Numeric (8 digits only)
	2.2.2 Content Format	drop down	Packager, Captivate 3, Captivate 4, Robohelp 7 Content with Captivate Shell, Robohelp 8 Content with Captivate, Breeze

	2.2.3 Deeplink to MyLearning Active Offering	Text field	
	2.2.4 *Assessment Map (Answer sheet for Quiz)	Text field & browse button	
	2.2.5 Content Type	drop down	Tool Based, Business Process, Both
	2.2.6 Embedded Help	drop down	Yes/ No
	2.2.6.1 If Yes, "Map ID Attachment" field appears	Text field with browse button	
3	Associated Tool/Application	Text field	
4	Target Audience (ACE, ISET admin &etc)	Text field	
5	Stakeholders		
	5.1 Subject Matter Expert (SME)	Text field	
	5.2 Business Analyst (BA)	Text field	
	5.3 Project Manager (PM)	Text field	
	5.4 System Analyst (SA)	Text field	
6	Demo/Simulation/Video Raw file Format	drop down	Captivate 3, Captivate 4, Camtasia, Flash, N/A
7	Status	drop down	Active, Archived, WIP
	7.1 If WIP: "WIP by (EUT developer's outlook contact)" field appears	Text field	
8	Raw Files Location (example: \\VMSEUTGAR007\ProjectName\)	Text field	
9	CMS Category (Example: Sourcing Service Solutions (S3)>Reach 3.2project)	Text field	
10	Menu Menager Path in CMS	Text field	
11	Ownership (EUT developer's Outlook contact)	Text field	with "@intel.com" Example: Nazlan,
12	Last Modified by	Text field	NadiaX
13	Remarks	Text Box	

	Search Database		
1 Or	Please enter your desired PSM ID or Course ID	Radio Button with text field	Numeric (36 or 8 digits only)
2	PSM or CMS Project/course Name	Radio Button with text field	
AND	2.1 Choose the content Platform	Drop down	CMS, MyLearning, PSM
Result: List of Project/Course ID, Project/Course Name, Content Platform, Status, Raw file location	Search or View All button Hyperlink on the project/course name to access all information		
	Report		
1	Project/ Course Platform	drop down	CMS, PSM, MyLearning, All
2	Status	drop down	Active, EOL, Transferred (WIP)
AND Result:	Run Report button Export to Excel button Print button All the above "Add New Sustaining Request" fields detail should appear at one glance		
AND	Sort and Filter buttons available		
	Total	Text Field	Indicate total result list count

4.2.1.3 Data Gathering Requirement For Quick Status

		Fields Label	Field Type	Options/Validation/ setting
1	AND Result: list of Project/Course name, ID, content Platform	**Content Submission (Applicable to EOL/ Active/Ownership Transfer quick status)** Report in 1.1 Monthly 1.2 Quarterly 1.3 yearly Generate button Total	Drop down Text Field	Monthly/Quarterly/Yearly past 6 months e.g. Sept- 2011 Past 4 Quarters e.g. Q3- 2011 Past 2 years e.g. 2010, 2011 Indicate total result list count

4.2.2 Data Analysis Result from User Acceptance Test (UAT)

Category/ID	UI Area	Tester	Findings
Admin			DA01 - Invalid login with the correct login ID/pw as the system apply case sensitive login. Invalid login message is not accurate. Admin screen should be by default appear instead of having user to click on the admin tab.
A01	Admin overview page	Admin only	
A02	Admin overview page -save	Admin only	DA02 - Selection button is not available
A03	Admin overview page - cancel	Admin only	DA03 - After clicking on the Cancel button, it closed the entire browser tab w/o log out.
A04	Admin overview page - add	Admin only	

			DA02- change of user type from active to non-active is not working or reflects immediately on the screen.
A05	Admin overview page - edit	Admin only	
Index			
H01	Login - Successful	All	
			H01/H02 The button still able to click, when we under that particular page. When I click on it, it refreshes the data show in that page when I click on it. Same thing go to the Add New Sustaining Request, report & upload links.Pop up message different from the suggested
H02	Login - Failure	All	pop up message
			DH03- Should include the CMS title as well. DH03- No sample of psm/course id; H03/04 "Flow Chart" links moving when I rollover the Content sub link. The example texts in the text box didn't display completely;
			"Flow Chart" links moving when I rollover the Content sub link. The example texts in the text box didn't display completely;
H03	Content Submission form - submit	All	Message display "Your request has been submitted" without the EUT POP KTBR
H04	Content Submission form - cancel	All	DH04 – 3no cancel button;
H05	Change Request form - Submit	All	DH05-No sample for PSM/Course ID
H06	Change Request form - Cancel	All	
H07	Content EOL form - submit	All	DH07-no sample psm/course name or id
H08	Content EOL form - Cancel	All	DH08 – 3no cancel button
Home - Search Database			
SD01	Search via ID		

SD02	Search via content name		
SD03	View all		
SD04	Result list		
SD05	Content detail page		
SD06	Content detail page - edit		
SD07	Content detail page - cancel		
Add New Sustaining Request			
NS01	Add CMS Content - Save	All	
NS02	Add CMS Content - Cancel	All	DNS02 - Data error Data too long for column 'mlrawfile' at row 1
NS03	Add MyLearning Course - Save	All	DNS03- Error "too long character" (deeplink)
NS04	Add MyLearning Course - Cancel	All	
NS05	Add PSM content - Save	All	DNS05-When I've added the information (the summary page didn't display the information)
NS06	Add PSM content - Cancel	All	
Report			
R01	Run CMS report	All	DR01: CMS first page path appears as Project ID is inaccurate
R02	Run MyLearning report	All	
R03	Run PSM report	All	
R04	Run All report	All	
R05	Run Active content report	All	
R06	Run EOL content report		
R07	Run WIP content report		
R08	Print report		
R09	Export report		
R10	Sort report column		
R11	Filter report column		
Quick Status Submission			
QSS01	Quick Status in Yearly	All	
QSS02	Quick Status in Quaterly	All	
QSS03	Quick Status in Monthly	All	DQSS03-got 7 months (should be 6 months only)
Active			
QSA01	Quick Status in Yearly	All	

QSA02 QSA03 EOL QSE01 QSE02 QSE03 Ownership QSW01 QSW02 QSW03	Quick Status in Quaterly Quick Status in Monthly Quick Status in Yearly Quick Status in Quaterly Quick Status in Monthly Quick Status in Yearly Quick Status in Quaterly Quick Status in Monthly	All All	

4.3 Experimentation/Modelling/Prototype/Project Deliverables

4.3.1 Request Form and Log In Function

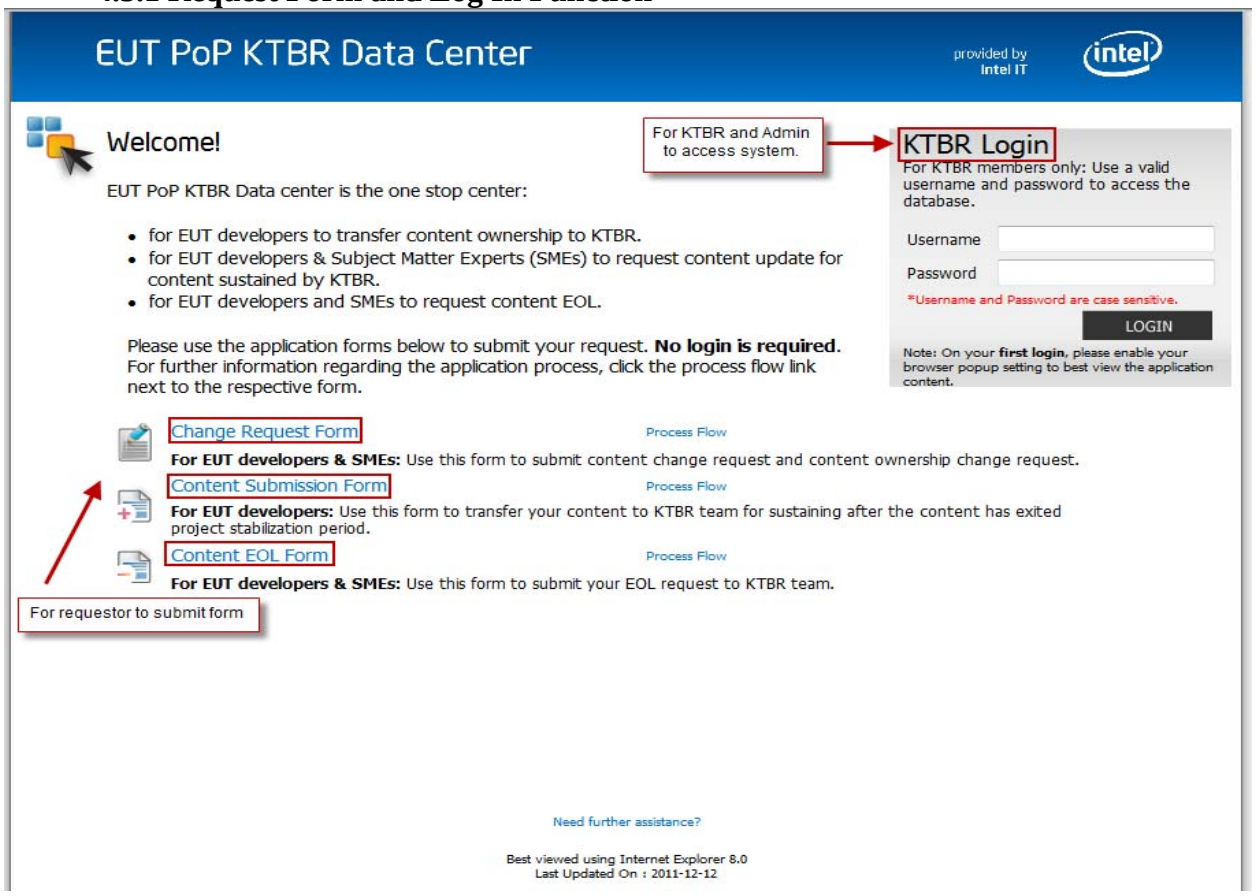


Figure 7: Request Form and Log In Function

Screenshot above shows the index.php page. This page involves flowchart from:

i) Submit Form Function.

ii) Log In Function.

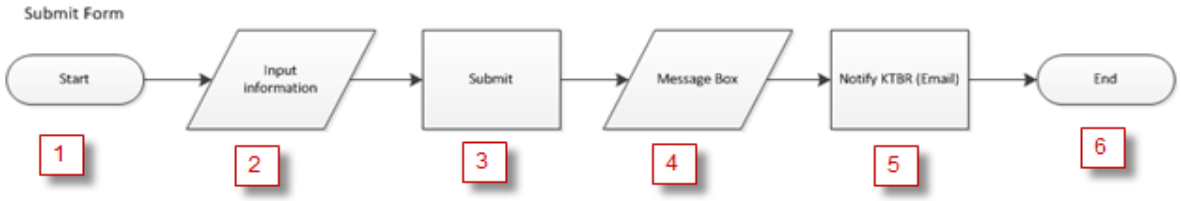


Figure 8: Submit Form Flow Chart

Steps	Action
1	Select the required form.
2	Fill in the form.
3	Click SUBMIT button after completing all the fields required.
4	A message box stating **'Your request has been submitted to EUT PoP KTBR team.'** will appear. Click OK button**.**
5	The form submitted will be sent to KTBR email.
6	End.

Table 5: Submit Form

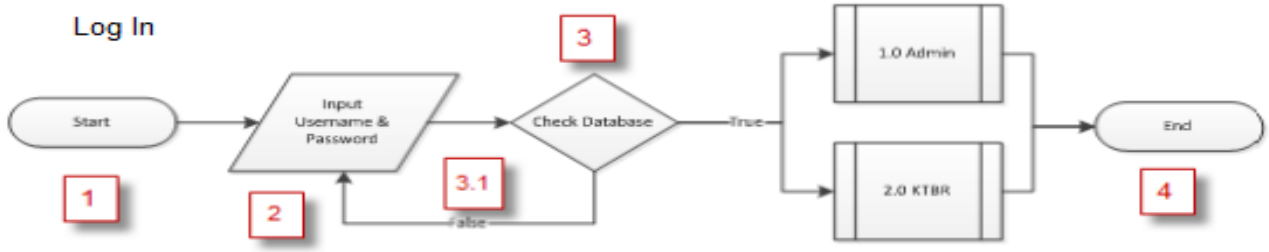


Figure 9: Log In Flow Chart

Steps	Action
1	Go to the Log In page.
2	Input Username based on IDSID and password as given by Admin.
3	Click LOGIN button to enter the system. In this process, they system will check in the database whether the user's IDSID and password are already in the system and their status either they are KTBR user or Admin. This is to allow them to use the system according to their accessibility. 3.1 If the username and/or password is wrongly entered, a popup message will appear Stating**'Invalid User/Password'** message. User will have to contact Admin for further assistance.
4	End of process.

Table 6: Log In

Login function uses index.php  file which consists of attachments from:

Attachment	Files	Sub files
1. Images file	 images.zip	
2. shadow.css	 shadow.css	
3. headerIndex.php	 headerIndex.php	
4. login.php (confg.php)	 login.php	 config.php
5. footer.php	 footer.php	
6. ChangeRequestForm.php (mail.php) (contentStyle.css) (SpryValidationTextField.js) (tc_calendar.php) (SpryValidationTextField.css)	 ChangeRequestForm.php	 mail.php  contentStyle.css  tc_calendar.php
7. ContentSubmissionForm.php (contentsubmitionMail.php)	 ContentSubmitionForm.ph	 contentsubmitionMail.php
8. EOLForm.php 9. (eolMail.php)	 EOLForm.php	 eolMail.php
ChangeRequestForm.php, ContentSubmissionForm.php and EOLForm.php contains  SpryValidationTextField.js and  SpryValidationTextField.css		

Table 7: Log In Function

config.phpattachment is included in login.php and it cannot be removed as it's a connector for server to database where data entered will be stored in the database in phpMyAdmin. When user submit form/s, the data will be captured by; mail.php (for Change Request Form), contentsubmitionMail.php (for Content Submission Form) and/oreolMail.php (for EOL Form) to the database.
(Admin Log In Only)

index.php page allows ticket submitter to submit form without having to log in the system. This page is also for KTBR user and Admin to access the system.

4.3.2 Admin Function

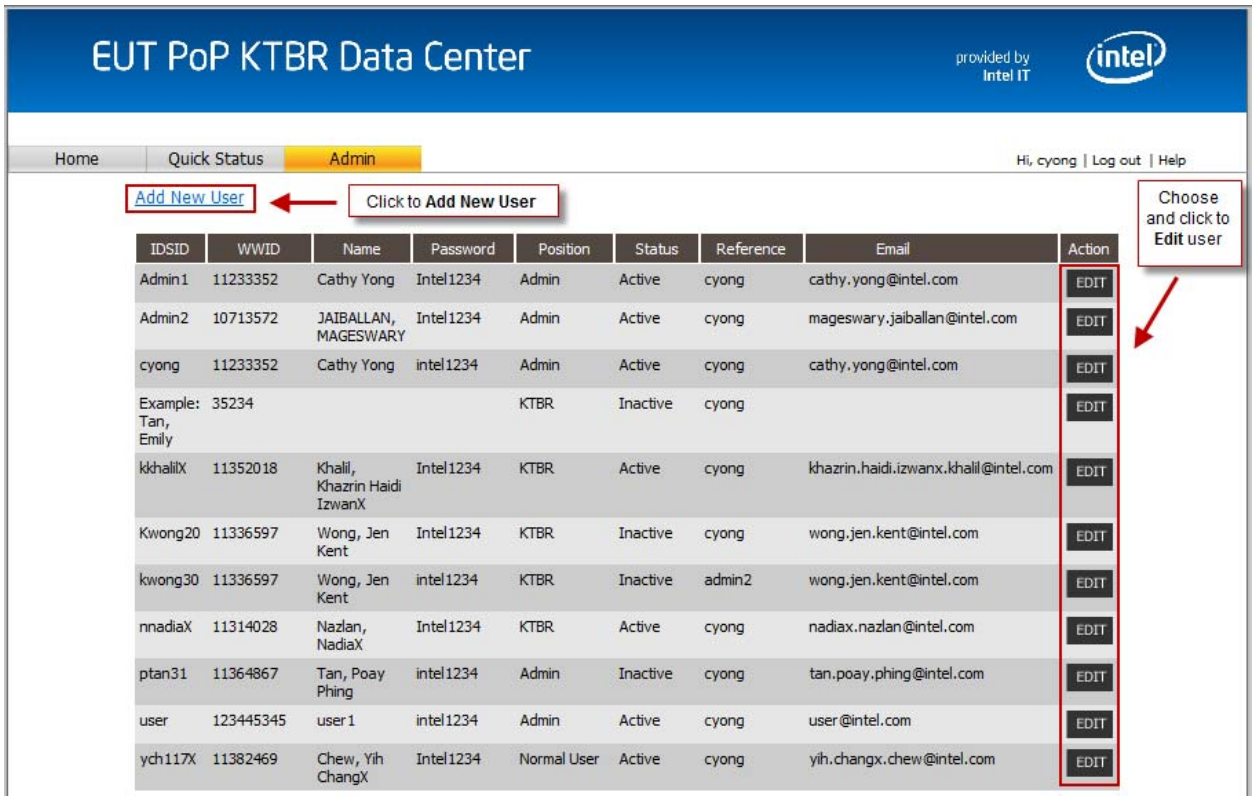


Figure 10: Admin Function

Screenshot above shows AdminMain.php page. This page involves flowchart from:

i) Admin Function.
ii) Add User Function
iii) Update User Function.

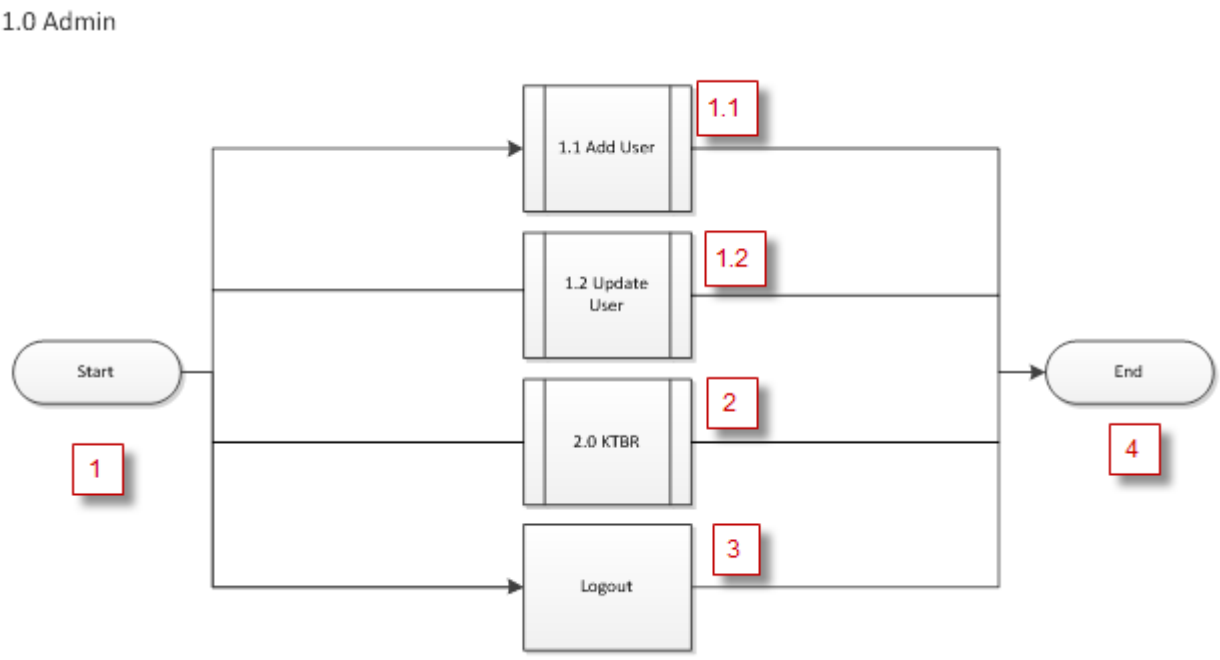


Figure 11: Admin Flow Chart

Steps	Action
1	Log in with Admin username and password.Once logged in, Admin will be directed to Admin Page. 1.1. Admin are able to edit existing user.
2	Admin is entitled to have KTBR user access.
3	Admin to log out once job is done
4	End

Table 8: Admin Access

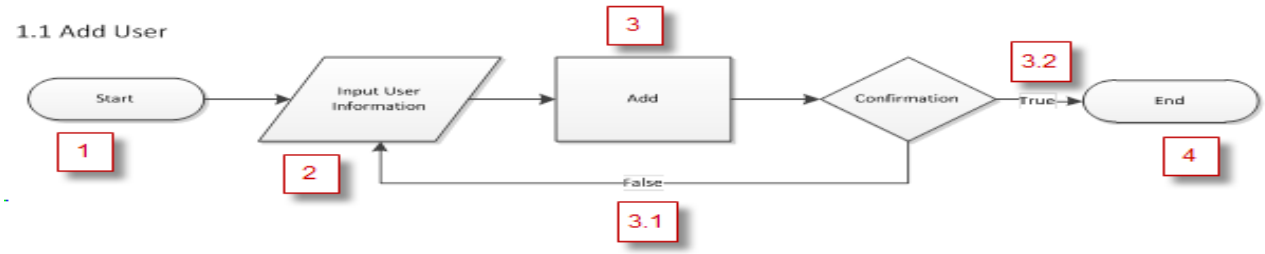


Figure 12: Admin Add User Flow Chart

:

Steps	Action
1	Click on Add New User link.
2	Input all information needed. Mandatory field to input are WWID (strictly numeric) and IDSID. If there's no input in it, the information will not be sent to the database.
3	Once done, click on SAVE button to add the new user information. A pop up screen will appear to confirm. 3.1. If there's correction, click on Cancel button to edit changes. 3.2. If all the information entered is correct, click on OK button to update the information into the database.
4	End.

Table 9: Admin Add User

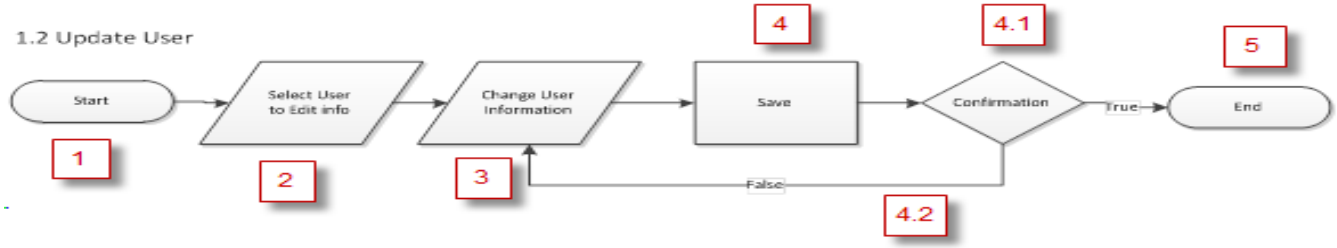


Figure 13: Admin Update User Flow Chart

Steps	Action
1	Go to Admin Page.
2	Select user to edit information and click on EDIT button.
3	Change the information needed.
4	Once changes have been made, click on SAVE button to edit user information. A pop up screen will appear to confirm. 4.1. If there's correction, clickon Cancel button to edit changes. 4.2. If all the information entered is correct, click on OK button to update the information into the database.
5	End.

Table 10: Admin Update

adminMain.php allow Admin to add new user and edit existing users information.

adminMain.php consists of attachments from:

Attachment	Files	Sub files
1. shadow.css	 shadow.css	
2. header.php (index.php)	 header.php	 index.php
3. ktbrMainLink.php	 ktbrMainLink.php	
4. AdminPage.php (config.php) (jquery.min.js) (tablesorter.js) (tablesorter_filter.js) (jquery.tablesorter.pager.admin.js) (tableHeader.css) (contentStyle.css)	 AdminPage.php	 config.php  jquery.min.js  tablesorter.js  tablesorter_filter.js  jquery.tablesorter.pager.admin.js  tableHeader.css  contentStyle.css

Table 11: Admin Function

4.3.3 KTBR Function

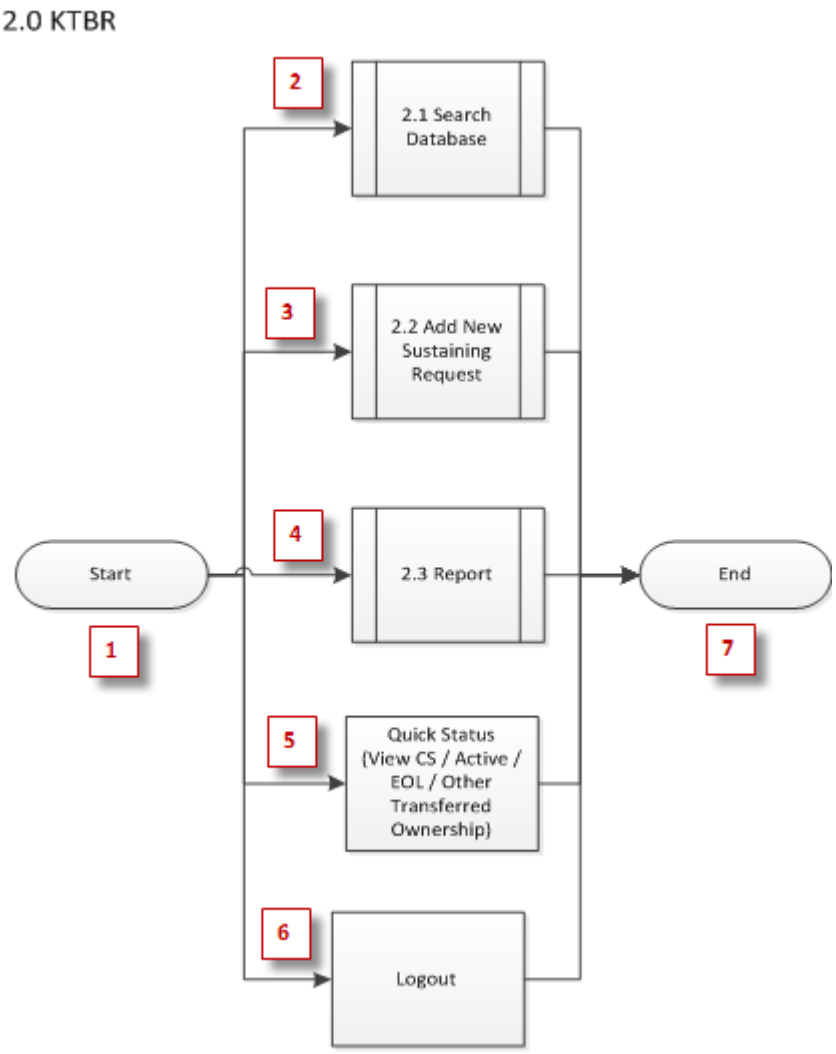


Figure 14: KTBR Function Flow Chart

Steps	Action
1	Log in with KTBR username and password.
2	Search Database page is where user can search specific data or view all stored data.
3	Add New Sustaining Request allow user to create new data and store it in the database
4	User can generate report based on time interval and Content Platform status (EOL, Active or WIP).
5	Quick status allows users to view data stored based on Monthly, Quarterly or Yearly basis for CS, EOL, Active and Ownership.
6	When user clicks on Log out link,they will be redirected to the index page.
7	End.

Table 12: KTBR Flow Chart

4.3.4 Search Database Function

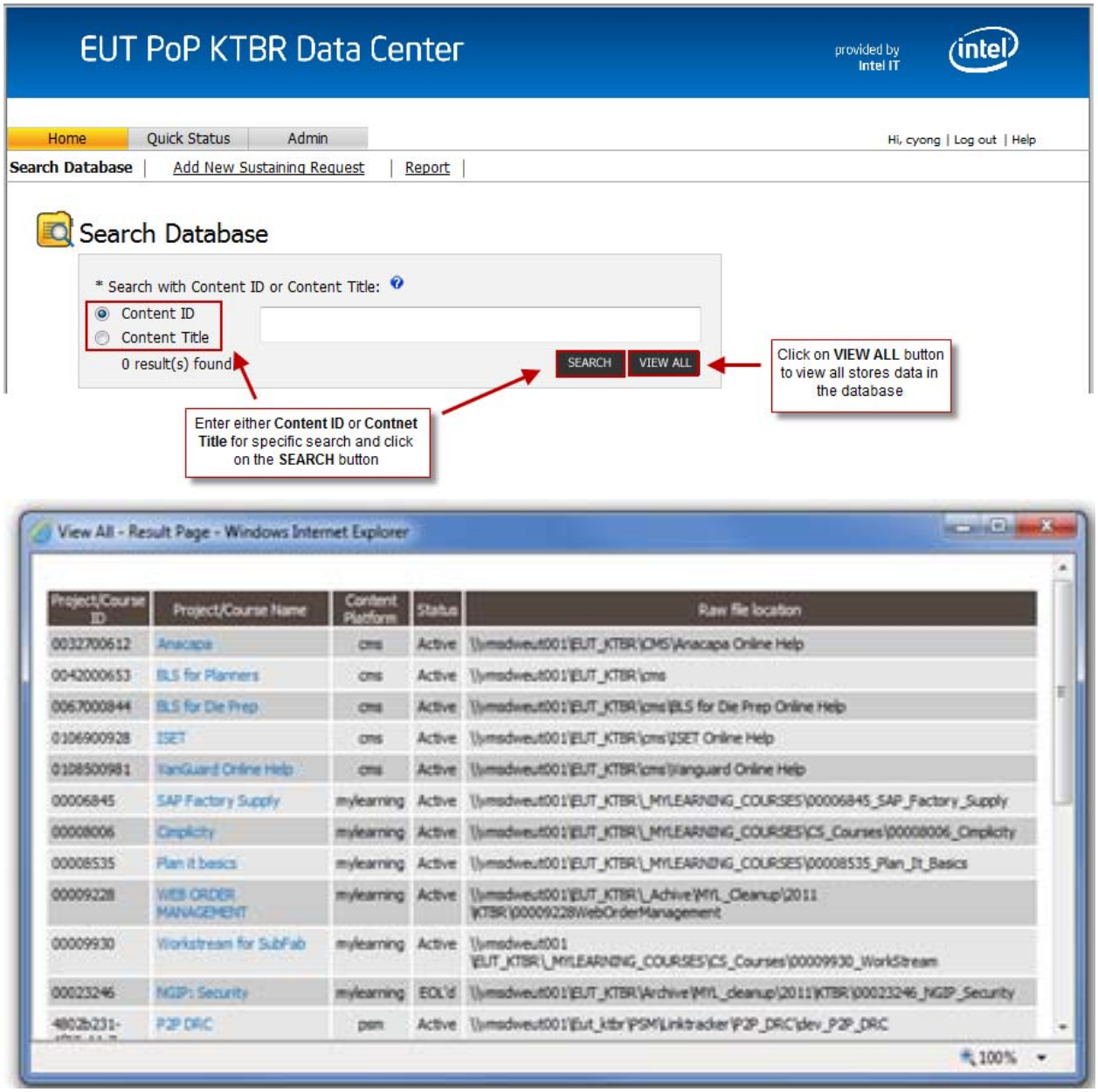


Figure 15: Search Database Function

Screenshot above shows ktbrSearch.php page. This page involves flowcharts from:

i) KTBR Function.
ii) Search Course Function.
iii) Update Course Function.
iv) Course Transfer Function.
v) EOL Function.

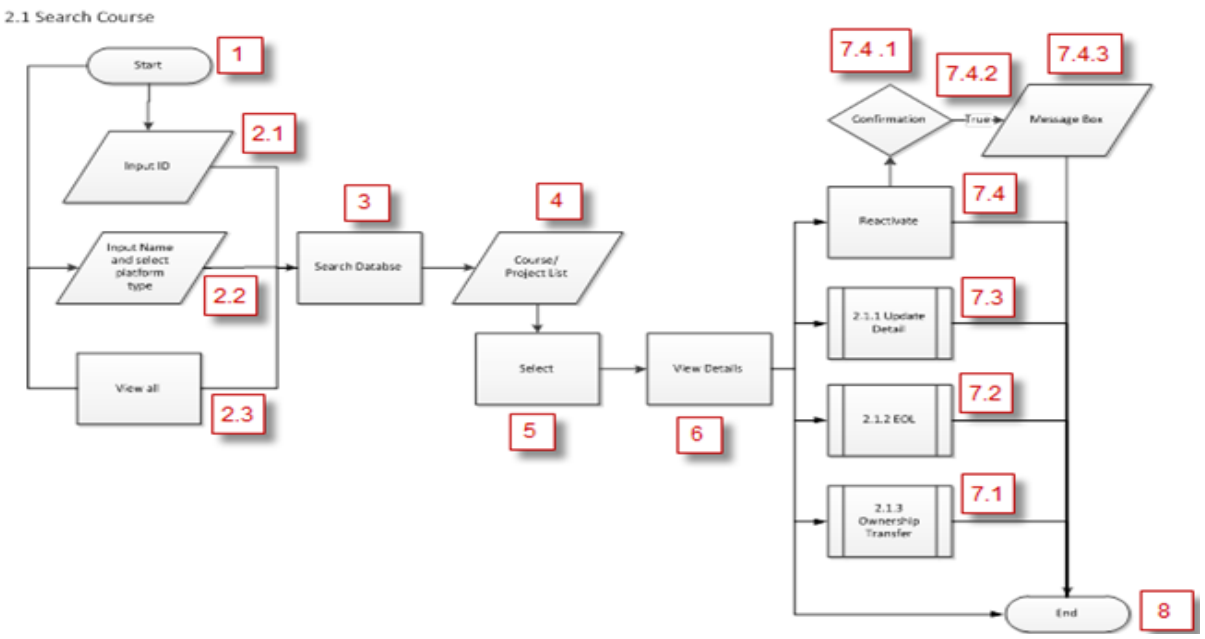


Figure 16: Search Course Flow Chart

Steps	Action
1	Go to Search Database page.
2	Choose either to: - 2.1) Input ID or 2.2) Input Name and select platform type. Then click on SEARCH buttonto view specific data or 2.3) click on VIEW ALL button to view all data.
3	System will perform database search from the input given.
4	Content list will appear once user clicked on search or view all.
5	User to select the specified content by clicking on the content title.
6	Details of the content will appear.
7	User to perform related task: 7.1 – Ownership transfer – Content to change ownership 7.2 - EOL – Perform content EOL. 7.3 – Update Details – Edit and update content details from time to time. 7.4 - Reactivate – Activate EOLed content. 7.4.1 – Confirmation popup will appear to verify reactivation process. 7.4.2 – If user confirms to reactivate, click on OK button if not, click on Cancel button. 7.4.3 - A message box will appear to notify user on the reactivation.
8	End of process when user log out of the system. Current page will go to index page.

Table 13: Search Course

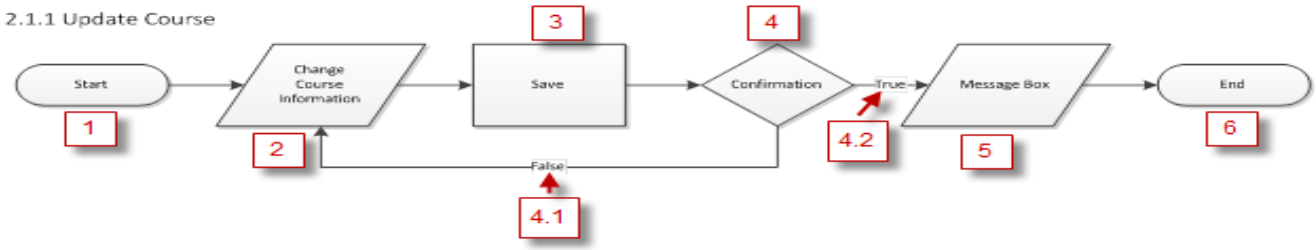


Figure 17: Update Course Flow Chart

Steps	Action
1	Click on the specified content name in Search Database.
2	Click on EDIT button to change content information and make necessary changes.
3	Click on SAVE button to update the changes.
4	A confirmation pop up will appear to verify on the changes made. 4.1. If there's correction, clickon Cancel button to edit changes. 4.2. If all the information entered is correct, click on OK button to update the information into thedatabase.
5	A pop up message will appear stating **'The information has been updated'.**
6	End.

Table 14: Update Course

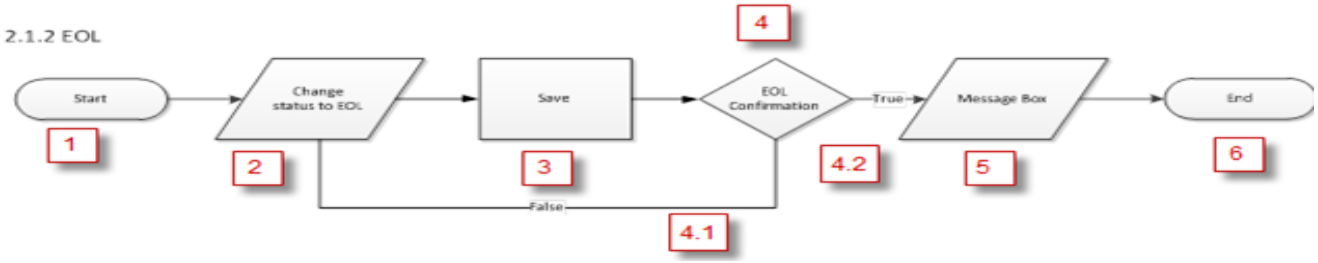


Figure 18: EOL Flow Chart

Steps	Action
1	Click on the specified content name in Search Database.
2	Click on EDIT button and change current course/project **status** to **'EOL'd'** and new field/s will appear. User will have to fill in the field to proceed.
3	Click on SAVE button to update the changes.
4	A confirmation pop up will appear to verify on the changes made. 4.1. If there's correction, clickon Cancel button to edit changes. 4.2. If all the information entered is correct, click on OK button to update the information into the database.
5	A pop up message will appear stating **'The information has been updated'.**
6	End.

Table 15: EOL

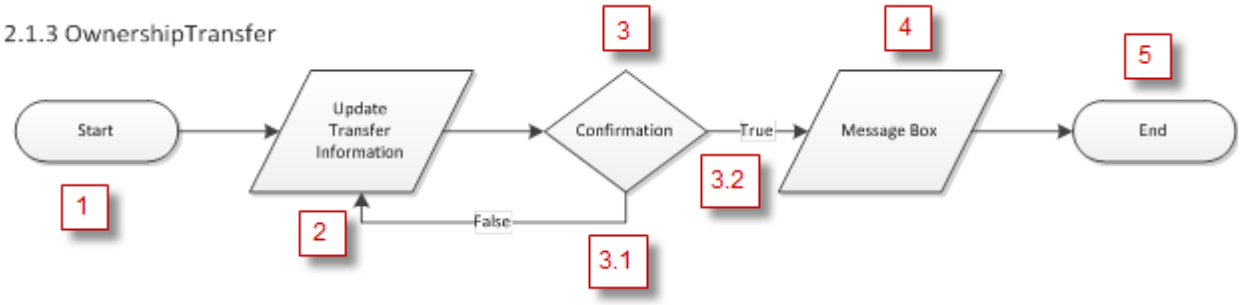


Figure 19: Ownership Transfer Flow Chart

Steps	Action
1	Click on the specified content name in Search Database.
2	Click on EDIT button and at project/course **status**, click **'Transferred'** and new field; **Transferred to:** will appear. User will have to fill in the field to proceed.
3	Click on SAVE button to update the changes.
4	A confirmation pop up will appear to verify on the changes made. 4.1. If there's correction, clickon Cancel button to edit changes. 4.2. If all the information entered is correct, click on OK button to update the information into the database.
5	A pop up message will appear stating **'The information has been updated'.**
6	End.

Table 16: Ownership Transfer

ktbrSearch.php allow KTBR user to search for specific course of view all stored courses in the database to perform further action.

ktbrSearch.php 

consists of attachments from:

Attachment	Files	Sub files
1. ktbrMainMenu.php (shadow.css) (header.php) (ktbrMainLink.php) ktbrhomeLink.php)		 

2. searchCourse.php (contentStyle.css) (config.php)	searchCourse.php	contentStyle.css config.php

Table 17: KTBR Search Function

4.3.5 Add New Sustaining Request Function

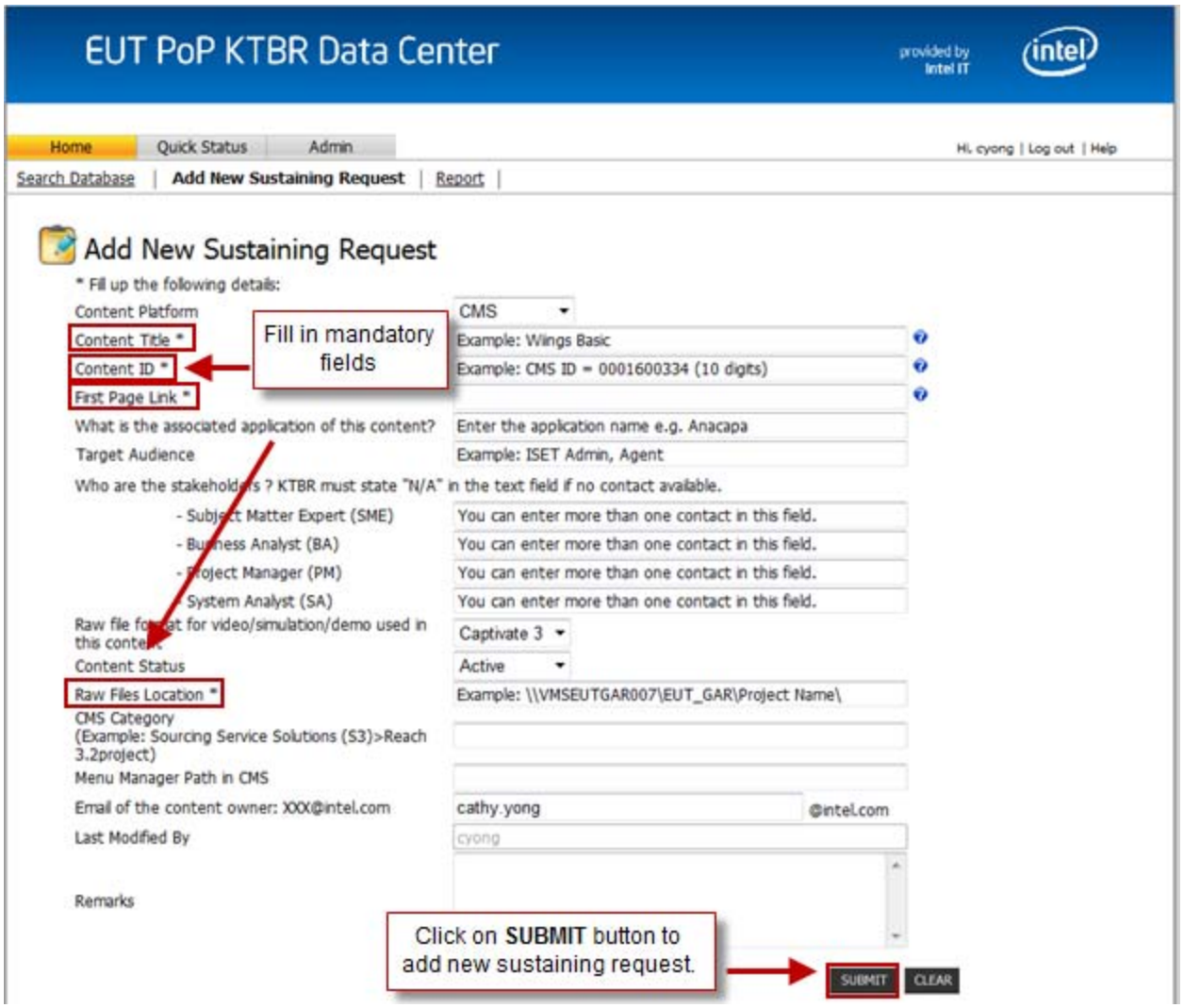


Figure 20: Add New Sustaining Request Function

Screenshot above shows ktbrAdd.php page. This page involves flowchart from:

i) Add New Sustaining Request Function.

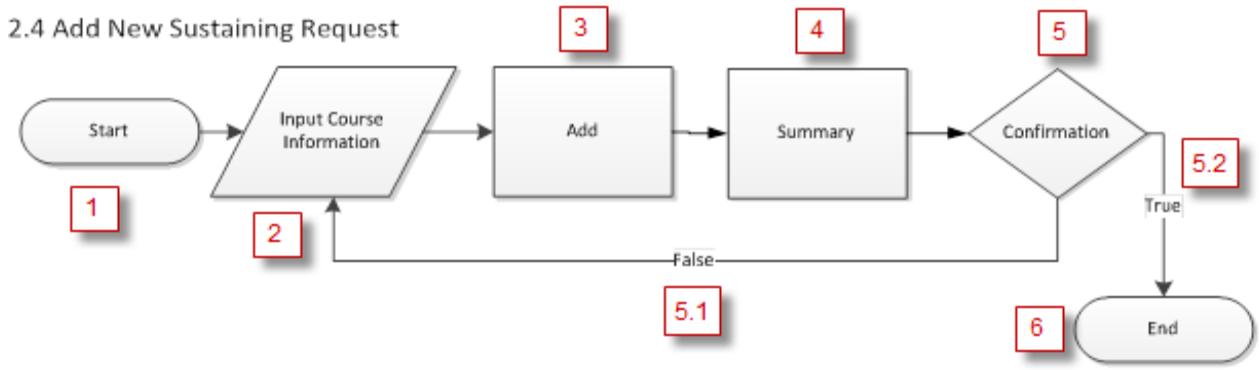


Figure 21: Add New Sustaining Request Flow Chart

Steps	Action
1	Go to Add New Sustaining Request Page
2	Input required information and mandatory fields.
3	Click on SUBMIT button to add in the information.
4	A summary of the information entered will appear.
5	Click on CONFIRM button to proceed. 5.1. If there's correction, click on EDIT buttonto make changes. To terminate the operation, click on CANCEL button. 5.2. If all the information entered is correct, click on CONFIRM button againto update the information into the database
6	End.

Table 18: Add New Sustaining Request

ktbrAdd.phpallow KTBR users to add new sustaining course as requested by requestor once KTBR team received Content Submission Form from the requestor.

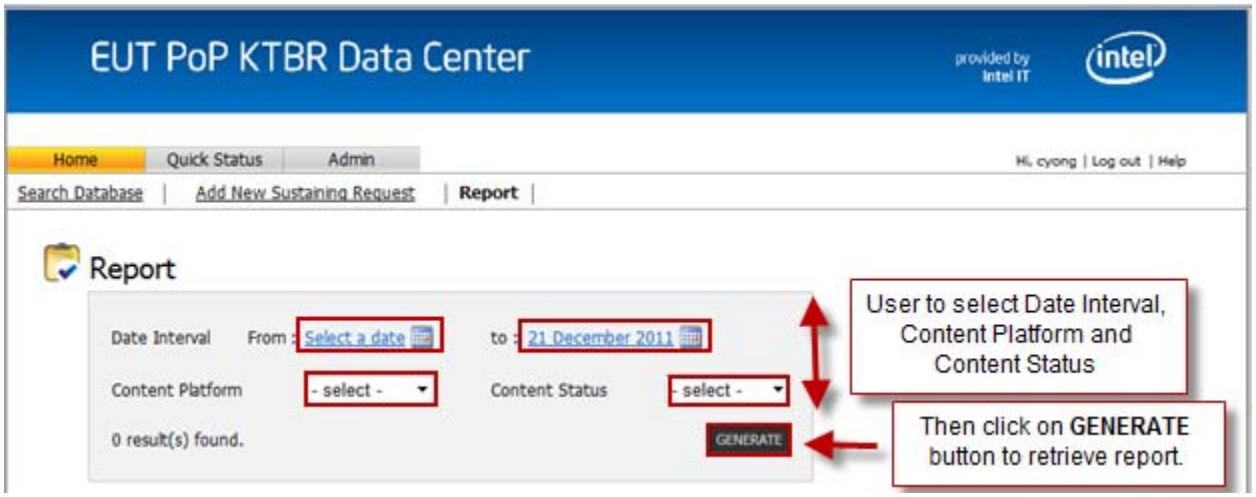
ktbrAdd.php ktbrAdd.php consists of attachments from:

Attachment	Files	Sub files
1. ktbrMainMenu.php (shadow.css) (header.php) (ktbrMainLink.php) (ktbrhomeLink.php)	ktbrMainMenu.php	shadow.css header.php

		 ktbrMainLink.php  ktbrhomeLink.php
2. addNewCourse.php (tc_calendar.php) (SpryValidationTextField.js) (SpryValidationTextField.css) (config.php) (contentStyle.css)	 addNewCourse.php	 tc_calendar.php  SpryValidationTextField.js  SpryValidationTextField.css  config.php  contentStyle.css

Table 19: KTBR Add Function

4.3.6 Report Function



Date	List of Project / Course Name	Project / Course ID	Status	Developer
2011-12-04 22:12:20	Anacapa	0032700612	Active	ych117x
2011-12-04 22:47:27	BLS for Planners	0042000653	Active	ych117x
2011-12-04 22:54:28	BLS for Die Prep	0067000844	Active	ych117x
2011-12-04 22:41:05	ISET	0106900928	Active	ych117x
2011-12-04 22:22:23	VanGuard Online Help	0108500981	Active	ych117x
2011-12-04 23:58:16	SAP Factory Supply	00006845	Active	nnadiaX
2011-12-05 16:38:04	Cimplicity	00008006	Active	nnadiaX
2011-12-04 23:18:28	Plan it basics	00008535	Active	nnadiaX
2011-12-04 21:38:15	WEB ORDER MANAGEMENT	00009228	Active	nnadiaX
2011-12-05 16:32:20	Workstream for SubFab	00009930	Active	nnadiaX
2011-12-05 00:24:47	NGIP: Security	00023246	EOL'd	nnadiaX
2011-12-05 16:54:02	P2P DRC	4802b231-4f93-44c7-bfad-e58333b8df8c	Active	kkhalilx
2011-12-05 16:12:28	Design Win Exchange	6adc0a91-b5e7-461c-ac5a-868ec5fb547c	Active	kkhalilx
2011-12-05 16:55:24	P2P Finance	98438f39-e9de-42ce-bf94-50e2ec32deb5	Active	kkhalilx
2011-12-05 16:49:17	Channel_Payment_System	992edd61-1153-4cbf-9a6c-e40d7e0528fc	Active	kkhalilx
2011-12-05 01:24:13	EAM Online Help	9d102ed3-735e-415d-bd92-9a707bbc6c26	Active	kkhalilx

EXPORT EXCEL

Figure 22: Report Function

Screenshot above shows ktbrReport.php page. This page involves flowchart from:

i) Report Function

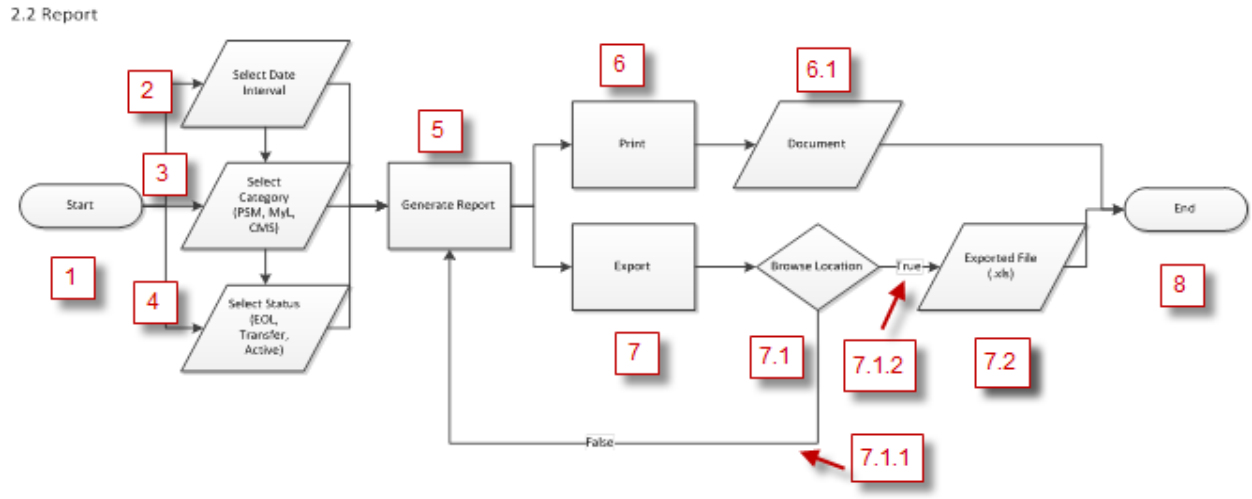


Figure 23: Report Flow Chart

Steps	Action
1	Go to Report Page.
2	Select the report date intervals.
3	Select platform from PSM, CMS, MyLearning or view All.
4	Select content status from EOL, Transfer or Active.
5	Click on EXPORT EXCEL GENERATE button to view the intended report.
6	To print, click on Internet Explorer settings on top right of the browser and click **'Print'.** 6.1. Select the active printer and key in **'Number of copies'** or **'Page Range'** to print.
7	Click on buttonto export the file in Microsoft Excel format. 7.1. Select location to save the file. 7.1.1. If user does not wish to continue, click on OK button. 7.1.2. If user wants to proceed to save the file, click on Cancel button. 7.2. File will be saved in .xls format.
8	End.

Table 20: Report

ktbrReport.php allows KTBR to generate report from stored content in the database based on Date Interval, Content Platform and Content Status.

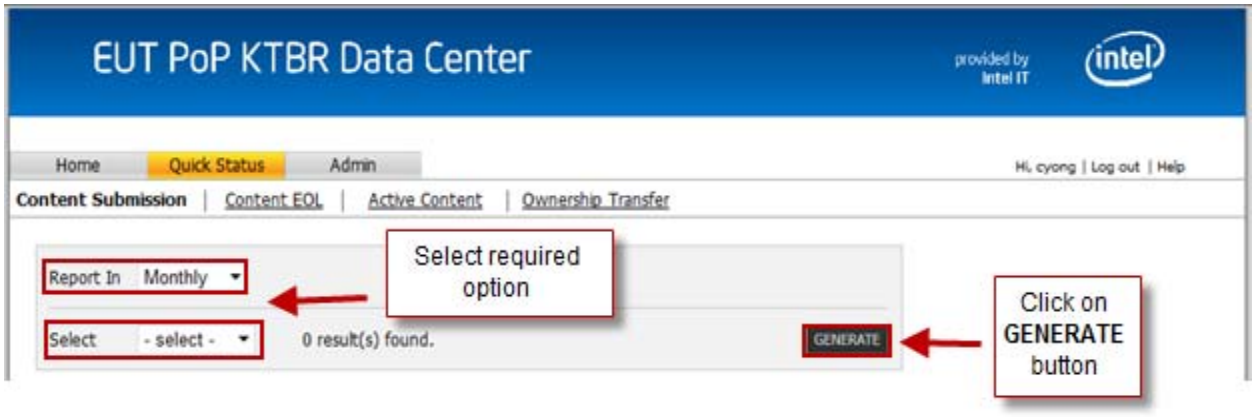
ktbrReport.php 

consists of attachments from:

Attachment	Files	Sub files
1. ktbrMainMenu.php (shadow.css) (header.php) (ktbrMainLink.php) (ktbrhomeLink.php)	ktbrMainMenu.php	shadow.css header.php ktbrMainLink.php ktbrhomeLink.php
2. ReportInterface.php	ReportInterface.php	contentStyle.css tc_calendar.php config.php

Table 21: KTBR Report Function

4.3.7 Quick Status Function



List of Content Name	Content ID	Content Platform
Anacapa	0032700612	cms
BLS for Planners	0042000653	cms
BLS for Die Prep	0067000844	cms
ISET	0106900928	cms
VanGuard Online Help	0108500981	cms
SAP Factory Supply	00006845	mylearning
Cimplicity	00008006	mylearning
Plan it basics	00008535	mylearning
WEB ORDER MANAGEMENT	00009228	mylearning
Workstream for SubFab	00009930	mylearning
dfvfdvdv	04aacefa-0a6f-4974-9926-97a139241f8d	psm
P2P DRC	4802b231-4f93-44c7-bfad-e58333b8df8c	psm
Design Win Exchange	6adc0a91-b5e7-461c-ac5a-868ec5fb547c	psm
P2P Finance	98438f39-e9de-42ce-bf94-50e2ec32deb5	psm
Channel_Payment_System	992edd61-1153-4cbf-9a6c-e40d7e0528fc	psm
EAM Online Help	9d102ed3-735e-415d-bd92-9a707bbc6c26	psm

Figure 24: Quick Status Function

Screenshot above shows ktbrQuickStatusCS.php page. This page involves flowchart from:

i) Quick Status Function

2.3 Quick Status

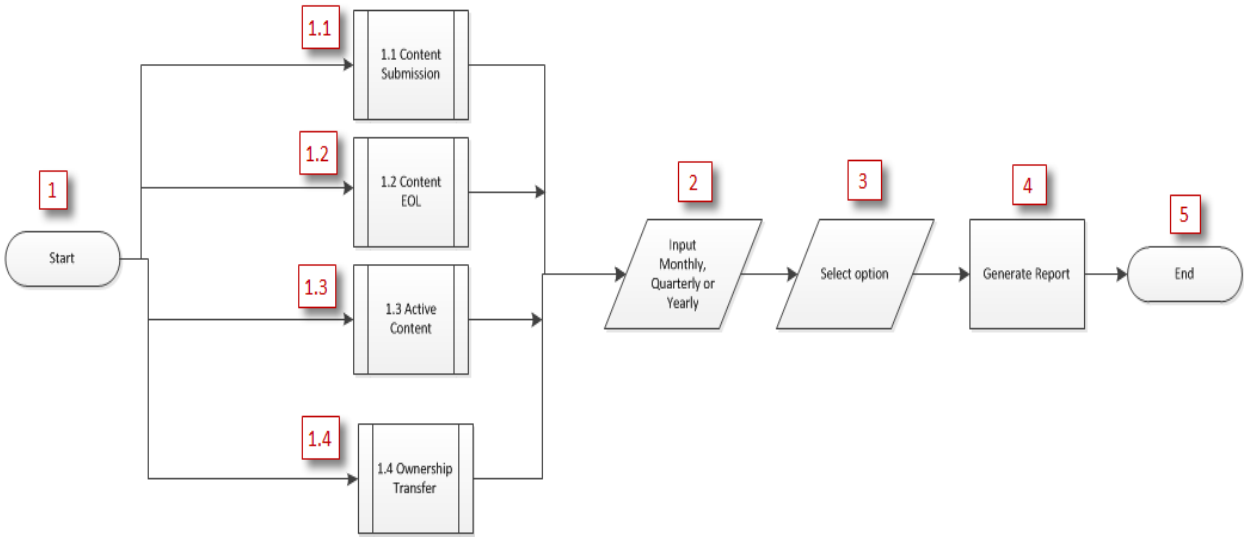


Figure 25: Quick Status Flow Chart

Steps	Action
1	Go to Quick Status Page. Choose from **Content Submission, Content EOL, Active Content** or **Ownership Transfer** to generate Quick Status report.
2	Choose to generate Quick Status report by **Monthly, Quarterly** or **Yearly** basis.
3	Select option based on selection from Step 3
4	Click on GENERATE button to generate the report.
5	End.

Table 22: Quick Status

ktbrQuickStatusCS.php allow KTBR user to generate Quick Status report for Content Submission, Content EOL, Active Content and Ownership Transfer based on Monthly, Quarterly or Yearly option

ktbrQuickStatusCS.php 

consists of attachments from:

Attachment	Files	Sub files
1. ktbrMainQSMenu.php (shadow.css) (header.php) (ktbrMainLink.php) (quickstatusLink.php)		 

		 ktbrMainLink.php  quickstatusLink.php
2. quickstatusContent.php (contentStyle.css) (config.php)	 quickstatusContent.php	 contentStyle.css  config.php

Table 23: Quick Status Function

5.0 Conclusion and Recommendations

5.1 Relevancy to the Objectives

As a conclusion, KTBR Data Center is needed for KTBR team as a centralized system in properly managing their data storage and effectively communicate with their client for any request need to be done for specified courses. Besides, it will allow extensive sharing of project details within the department and the complexity of monitoring and tracking ticket with different course platforms will be reduced. The objective of developing the system is relevant as the purpose of developing KTBR Data Center prototype model and perform the prototype model testing to the organization as well as properly document the processes is crucial in ensuring proper deliverable throughout the project execution and successfully satisfy the KTBR team requirements.

5.2 Suggested Future Work for Expansion and Continuation

In ensuring that KTBR Data Center to stay relevant in the future, KTBR team as the user and EUT PoP department have to come out with new ideas that will enable the system to stay relevant from time to time. KTBR team can come out with new platform to park the system.

Looking at current trend nowadays, more and more mobile phone users switch to the usage of smartphones. Not just that, statistics shown that the number of mobile applications downloaded increases rapidly from time to time. This shows that people are more comfortable in using hand held device instead of mobile laptop.

Realizing this issue, KTBR team should take an initiative to come out with mobile app for KTBR Data Center. With the availability of KTBR Data Center mobile app in the app store, it will further improve the KTBR team productivity in dealing with requests from clients. Besides the KTBR team, the clients side would be positively impacted as well where they can easily submit their request on the go.

However, in dealing with security matters, KTBR team will have to do research on how to protect the data and information stored in the system in case of security invasion or probably phone damaged or loss.

These issue is yet to be resolved at the moment and if there's a solution for such issue, the idea of developing mobile app for KTBR Data Center would be successful.

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APPENDICES

KTBR Data Center
Training

1st Phase:

System Setup

Agenda

1. Pre-requisite Materials
2. Installers Required
3. System Installation

Pre-requisite Materials

i) Hardware – Desktop/Laptop

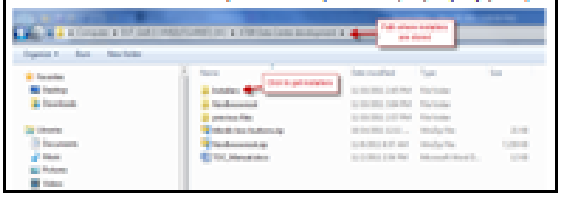
ii) Operating System – Windows 7

iii) Internet Browser – Internet Explorer 8

Installers Required

- Dot Net Framework 2.0
- MySQL
- PHP

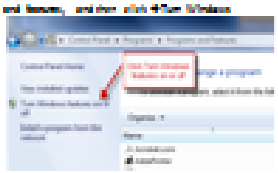
- Dot Installers to setup the WAMP (Windows, IIS, MySQL, PHP)



System Installation

- Step by Step setup
- Setup the IIS that is available in windows 7 (you may check the procedure from here [illegible] for reference)

- Enable the IIS
  - Click Start and then click Control Panel
  - In Control Panel, click Programs and features, and then click Turn Windows features on or off. Click Yes



- In the Windows Features dialog box, click Internet Information Services, click World Wide Web Services, click Application Development Features, and then
  - Click OK
- Click OK to close the Windows Features dialog box.