

CERTIFICATION OF APPROVAL

**Video Sharing Portal for the Usage of Universiti Teknologi PETRONAS
Community**

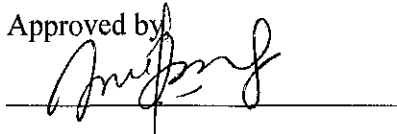
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12402

A project dissertation submitted to the
Business Information System Programme
Universiti Teknologi PETRONAS
in partial fulfillment of the requirement for the
BACHELOR OF TECHNOLOGY (HONS)
(BUSINESS INFORMATION SYSTEM)

Approved by



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UNIVERSITI TEKNOLOGI PETRONAS

TRONOH, PERAK

May 2011

CERTIFICATE 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 acknowledgements, and that the original work contained herein have not been undertaken by unspecified sources or persons.



(NABEILA MOHD GHAZALI)

ABSTRACT

The emergence of video sharing technology offers great opportunity for users throughout the world to share videos online. However, most of the video sharing sites are not primarily educational. Therefore, this project intends to draw attention to the necessity of knowledge sharing culture among Universiti Teknologi PETRONAS community and to develop a video sharing portal as a platform for university community to share educational valued videos that capture university official and educational events that may benefit university community as a whole. In order to develop a video sharing portal that meet the user's needs, corporation from university community will be needed to contribute their opinion and expectation on the development of the video sharing portal which will be implemented at Universiti Teknologi PETRONAS. Three research methods have been selected namely literature review, interview, and questionnaire in order to gather the requirements for developing the video sharing portal that manage to become as a knowledge warehouse and able to enhance knowledge sharing culture among university community.

ACKNOWLEDGEMENT

First and foremost, I am heartily thankful to the Almighty for His blessings I am given the opportunity to complete my Final Year Project (FYP) successfully. This achievement would not have been possible without the guidance and the help of several individuals who in one way or another contributed and extended their valuable assistance in the preparation and completion of this project.

My greatest gratitude to my supervisor, Ms. Emelia Akashah Binti Patah Akhir, whose encouragement, guidance and support from the initial to the final level enabled me to develop an understanding of the project.

Last but not the least, the staff of Universiti Teknologi Petronas (UTP) especially Mr. Arfaishah Bin Arih from IT and Media Services Department for being accommodating to my queries likewise the UTP students for all the help.

Lastly, I offer my regards and blessings to all of those who supported me in any respect during the completion of the project. Thank You.

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

University represents the ultimate knowledge organization. However, lack of awareness and inefficiency in managing the available expertise and resources within university is still occurred. According to Wordnetweb, educational is defined as something related to the process of education where education is defined as activities that impart knowledge or skill. Meanwhile, event is something that happens at a given place and time. Based on the definition, it can be understand that educational events are one of the knowledge sources that can enhance the knowledge level, provide new skills and experiences for university community.

In the fast changing information world of today, knowledge sharing pattern within higher learning institution must be enhanced in order for knowledge to be effectively transmitted among all members of university community. Web portals can serve as powerful tools to assist knowledge organizations, such as universities, to improve their collaborative activities. Web portal manage to facilitate knowledge acquisition, sharing, and discovery by allowing people to publish documents, share ideas, work collaboratively, and store information and knowledge in easily searchable repositories.

Nowadays, video sharing portal is one of the example of web portal that widely been used as a knowledge sharing platform. Video sharing portal can be a medium to facilitate knowledge sharing within higher learning institution as it has the potential to become as a knowledge repository for all videos that capture the educational events occurred at university and it can easily accessible to a wide audience.

This paper explores the concept of knowledge sharing and the process of understanding digital video sharing needs and transform those needs into a web based video sharing portal for Universiti Teknologi PETRONAS (UTP) community. This paper also describes the importance of efficiency in managing knowledge, the development process for the knowledge sharing platform and future directions to create one stop video portal which provides sharing and archiving videos mostly related to video ranging from department lecture to the international lecture/seminar and UTP educational and official events.

1.2 PROBLEM STATEMENT

1. The apparent lack of an electronic platform for UTP community

No platform to store, share, and retrieve university video events as a part of knowledge inbuilt and a platform which enables all members to access.

2. Failure in providing a platform to replay events

Annually, there are many official events held at University Technology Petronas (UTP) such as adjunct lectures, talks from special guest speaker like Tun Dr. Mahathir Mohamed, University Graduation Day, Dean List Award Ceremony, Art and Culture events. The problem with this is not every member of university community is available to attend or get involved in the events held on campus due to certain circumstances. Without a proper platform to replay the events, university community will not be able to see what has occurred during the events.

3. Failure in providing a proper video repository that is accessible by future and current university community

Without a proper platform which act as a video repository, future and current university community are not able to see what events that has occurred at UTP. Thus, it is considered that the process of knowledge sharing among university community is not well-organized enough due to inefficiency in transferring knowledge to a larger group and to the future community.

In a nutshell, there is shortage of a good platform in order to enable the activity of knowledge sharing being conducted in the most efficient way.

1.3 OBJECTIVES

1. Investigate how knowledge can be managed in higher institution via knowledge sharing activity.
2. Investigate how information technology and web based portal can help to improve the efficiency of knowledge sharing activity at UTP.
3. Develop a video web based portal namely V-Portal as a platform for knowledge sharing and UTP official event videos archive.

1.4 SCOPE OF STUDY

1. Study on the benefit of video as knowledge representation
2. Study on how video sharing portal can enhance the process of knowledge sharing among university community.
3. Understand the criteria needed to develop a knowledge warehouse for the video based products being stored, shared, and retrieved by university community.

1.5 FEASIBILITY STUDY

Feasibility study can be defined as an evaluation of a proposal designed to determine the difficulty in carrying out a designated task and to assist determine whether to proceed with the project. With regards to this project, a technical and operational feasibility analysis was conducted.

1.5.1 Technical Feasibility

Project is feasible technically although there are some risks.

Familiarity with technology:

- Developer is inexperienced in developing a video sharing portal.
- The tools to develop a video sharing are available and consultants are readily available to provide advice and assistance if needed.
- Majority of university community have used similar video portal before. For that reason, it will not hard for them to learn on how to implement video sharing portal as a knowledge sharing platform at university.

Project size:

- The size for this project is considered as a medium project sized.
- Time allocated to finish the project is approximately 8 months.
- The project is not too complicated although it will be developed by one developer as tools for developing the project and advices are easily be accessed.

1.5.2. Operational Feasibility

Project is feasible operationally.

Nowadays, video sharing portal has been accepted as a knowledge sharing platform by most of people, thus this project is considered as a low risk. The main objective of this project is not to replace any other knowledge sharing platform that already available at university. It is mainly to provide another alternative for knowledge sharing to be happened in the most efficient way at university level. Therefore, university community is expected to be glad about the advantages of the development of this project.

CHAPTER 2

LITERATURE REVIEW

2.1 KNOWLEDGE SHARING

In general, knowledge sharing is about communicating knowledge within a group of people. The group may consist of members engaged in a formal institution, for instance, among colleagues in a workplace or informal for example, among friends. The interaction may occur between a minimum of two individuals to a multiple of individuals. The underlying purpose of this interaction is to utilize available knowledge to improve the group's performance [1].

Knowledge sharing processes consists of collecting, organizing and conversing knowledge from one to another [1] and [2]. As the process involves more than just collecting data and information, generally, the value of knowledge expanded when it is shared. Therefore, if managed properly, knowledge sharing can greatly improve work-quality and decision- making skills, problem-solving efficiency as well as competency that will benefit the organization at large [1] and [3].

2.2 VIDEO AS KNOWLEDGE REPRESENTATION

In a digital age, knowledge can be represented in a variety of form in order to facilitate knowledge sharing activity. Nowadays, video has become one of the knowledge representation that widely been used by everyone. In education enviroment, inexpensive and easy to use digital cameras and editing software have contribute to enable educators to explore the use of digital video as another alternative tools in teaching and learning [4] and [5].

Moving into the digital world, video has become a powerful tool for learning and instruction. It is difficult to illustrate human behaviour in interpersonal situation, for example without showing a video.

The movement of humans or animals are best captured by video as it is easier to show to the learners the effects of body language on communication instead of only using graphics or still photograph [6]. As video is a powerful and expressive non-textual way to capture and present information [7] and [8], thus it capables to provide a multi-sensory learning environment that may improve learners' ability to retain information [7] and [9].

2.3 VIDEO SHARING

Due to the effectiveness of video as a medium to convey information and knowledge to people, video sharing has been widely implemented by modern generation nowadays. Video sharing can be one of the example of knowledge sharing activity that appropriate to be implemented at knowledge-based organization such as university. Videos that use to store educational events such as adjunct lecture, talk from guest speaker, art and culture performances are considered as a documented knowledge which can act as a knowledge contributor for university community. Thus, by implementing video sharing at university level, it can be one of the alternative to enhance the knowledge sharing culture in higher learning institution.

Video is defined as a system of recording moving pictures and sound, either using videotape or a digital method of storing data. Meanwhile, sharing is defined as an action where people give what they have to somebody else [13]. Based on the definiton, generally video sharing can be understand as an action that allow somebody else to access the information stored in a video which belongs to a particular person or an organization.

Video can be stored whether in the form of hard copy such as on a CD-ROM or it can also be stored in the form of soft copy, for example on an external hard disk, pendrive, or internal hard disk of a computer. However, without the existance of a proper repository and a medium to make use of the video, effectiveness in the implementation of video sharing as a part of knowledge sharing activity will not be realistic.

It has been recognized that technology can be an enabler in the implementation of video sharing. This is because technology plays a role in facilitating knowledge sharing to occur. While people is the main element, technology is also considered as one of the vital factor which can influence the success of knowledge sharing [10]. Information and communication technology (ICT) may be helpful to enhance knowledge sharing by lowering temporal and spatial barriers between knowledge workers, and improving access to information about knowledge [10] and [11]. In addition, modern information and telecommunication technology are available to support knowledge sharing across time and distance [10] and [12].

Therefore, technology can be considered an invention that helps, assists and aids people in sharing knowledge as the access of information in ICT era becomes easier with the innovation and implementation of it.

2.4 WEB PORTAL AS A KNOWLEDGE REPOSITORY AND KNOWLEDGE SHARING PLATFORM

With the facilitation of technology development, portal has become one of the modern technology that play a role as a platform to facilitate the implementation of knowledge sharing at the most effective way.

The Web portals can be seen from several perspectives. Portal means “a large door” or gateway”, indicating that the portal itself is not the final destination but a way to reach many other places. A Web portal is a web site, usually with little content, providing links to many other sites that can either be accessed directly by clicking on a designated part of a browser screen, or can be found by following an organized sequence of related categories [14].

Furthermore, web portal can serve as a powerful tool that can facilitate knowledge acquisition, sharing, and discovery by allowing people to publish documents, share ideas, work collaboratively, and store information and knowledge in easily searchable repository.

Additionally, moving beyond the one-sided information and knowledge exchange found in traditional websites, web portal can facilitate knowledge sharing through the inclusion of multiple communication channels such as forum, chat room, [15].

Due to the beneficial features that a web portal can offer, it is becoming an increasingly important part of the information technology infrastructure of universities as they seek to integrate the vast intellectual resources within a central virtual space that is easily accessible via a web interface [15] and [12].

2.5 ONLINE FORUM

Online forums which also known as online discussion sites are powerful tool for sharing information. Nowadays, their use have become omnipresent and wide reaching. Many people use discussion sites on a daily basis, whether it is to gain knowledge, share ideas or simply to feel as part of a community. By participating in forums, it can be another brilliant alternative to stay in contact with persons belonging to the same community and to keep abreast of recent events. Furthermore, forums can become as a place to voice opinions, be heard and discover other's thoughts [17].

Below shows some benefits of regular online forum participation [18]:

- ☐ Intellectual exchange
- ☐ Learning new ideas and refining old ones
- ☐ Enjoying community membership
- ☐ Influencing the forum's evolution
- ☐ Contributing to others
- ☐ Making new friends and contacts
- ☐ New business leads
- ☐ Keeping up with current events
- ☐ Learning about new opportunities

2.6 ONLINE CHATROOM

People are not only interested in forum as they started to want a way of communicating with their member of community in real time. The downside to forum was that people would have to wait until another user replied to their posting, which, with people all around the world in different time frames, could take awhile.

Meanwhile, the development of online chat rooms allowed people to talk to whoever was online at the same time they were. This way, it provides a benefit in where messages were sent and online users could immediately respond back. 13

By using chatroom, it also provides “like reality” feature which allow people to communicate as if they are speaking to one another in real life. From this advantage, it give people an opportunity to form a virtual community, because chat rooms allow users to get to know one another as if they were meeting in real life. Furthermore, the "individual room" feature also makes it more likely that the people within a chat room share a similar interest, an interest that allows them to bond with one another and be willing to form a friendship [19].

Below shows some benefits of online chatroom [20]:

- ☐ In well-monitored chat rooms, people can meet others from around the world who share their interests in a safe and non-harassing environment.
- ☐ People can communicate directly with others that they might not otherwise be in touch with. For example, teachers, community leaders, or experts.
- ☐ People can participate in online community where they are not judged based on how they look.

2.7 VIDEO PORTAL

As mentioned earlier, video is a powerful learning tool. Over the years, videos have gained popularity on the Web as a medium of presenting materials that incorporate multimedia content for e-learning. The advancements in technology in this era allows video portal to become as a video sharing platform. A video portal is defined as a web site that provides access to a variety of video sources [21].

Documented knowledge in the form of video can be uploaded to video portal for knowledge sharing purpose and it manage to act as a video repository. Due to the existance of video portal, it seems that learning beyond classroom can be realistic and it makes distance learning possible.

By having a video sharing platform that can provide video sources to a wide number of people, it can also allow people to have repetitive viewing by which they can pause and replay the video uploaded in the portal as needed. Thus, this can help them to enhance their understanding and improve information retention. Video portal is not only allows people to learn at their own pace, own time and in the comfort of their own environments, but it also provides another alternative for people to learn independently without being dependent to others for help. Furthermore, to repeat lectures or skilled demonstration might be time demanding for instructors but using video portal as one of the aid to transfer knowledge in the form of video, it gives a relieve for instructor from repeating lectures or skilled demonstrations to a wide audiences. Not just that, video portal which can be a medium for video archive, will be able to become as a knowledge warehouse for future generation thus knowledge sharing can be implemented at the most effective way.

2.8 BENEFITS OF VIDEO BASED E-LEARNING

Below show the benefits of video based e-learning [22]:

- Video in e-learning stimulates better brainstorming, knowledge sharing and information gathering.
- Seeing the instructor in a video, or hearing his voice, goes a long way toward building relationships in a way that e-mail, telephone, or online chat systems cannot. Interactive communication and graphics are among the keys to learning. This way people can learn better rather than a textbook.
- A video based e-learning session can prove to be more effective and efficient as it can improve retention and appeal to a variety of learning styles by including diverse media such as video or audio clips, graphics, animations, and computer applications.

Further graphics and video do a great job of illustrating skills and techniques that are difficult to explain. This first hand learning is especially good for visual learners.

- ☐ Able to holds people's attention.
- ☐ Gives the distant learners an opportunity to achieve a sense of belonging with a peer commun

2.9 EXISTING VIDEO SHARING PORTAL IN MALAYSIA

2.9.1 uCast

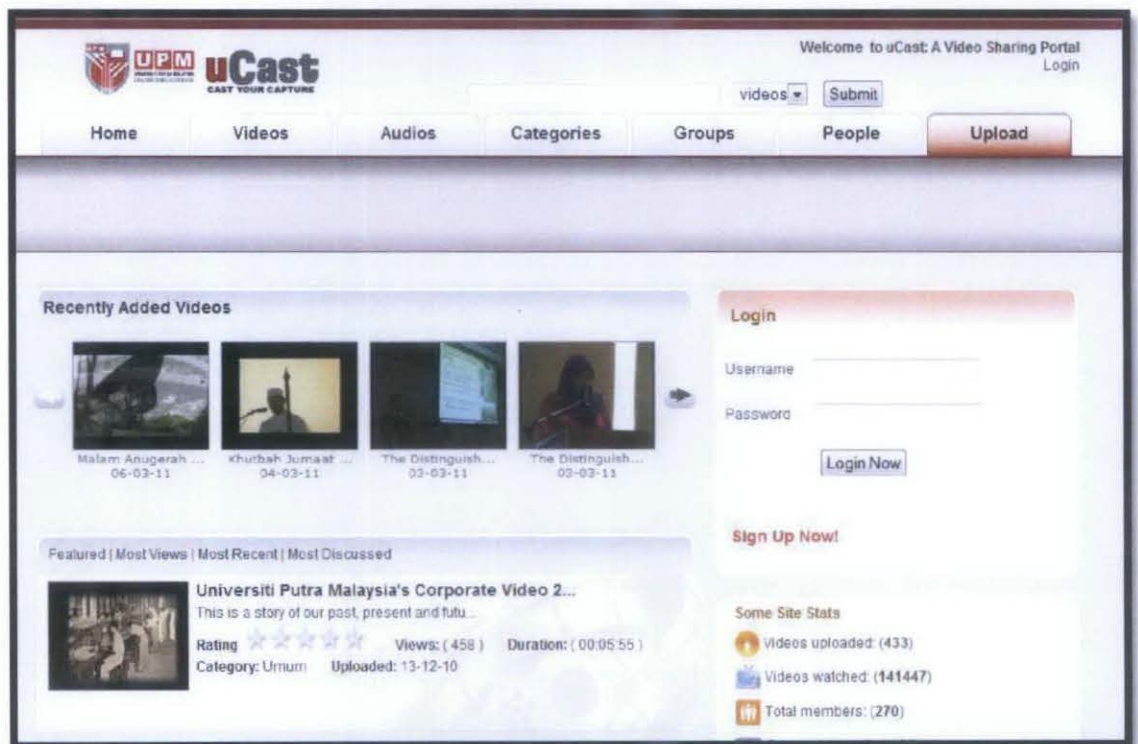


Figure 1 : Screenshot for uCast

Retrived from: <http://www.ucast.upm.edu.my>

uCast is a Universiti Putra Malaysia (UPM) video sharing portal. The uCast is a platform to provide one stop centre for sharing and archiving video in the UPM. The students can view the recorded lecture using any web browser at anytime, anyplace as long they have access to the internet. The video collection consist variety of video ranging from department lecture to the international lecture/seminar and UPM activities.

Features:

1. Sign up to create account as a member of uCast.
2. Upload video, and allow to insert the fields of:

Title of the video , Description of the video, Tags , Category of the video.

3. Allow video comments.
4. Allow video embedding.
5. Make video private or public.

2.9.2 Lepak.TV



Figure 2: Screenshot for Lepak.TV

Retrieved from: <http://www.lepak.tv>

Lepak.tv is a video sharing entertainment portal where viewers are mainly from the Asian region such as Indonesia, Singapore and Malaysia. Lepak.tv was established in April 2008 and has since reached a total 20.2 million page views within a year and growing. Lepak.tv is a platform for Malaysian webtizens to share locally produced videos with others and is geared towards encouraging the growth of new home grown talents.

Features:

1. Upload, tag and share videos with family and friends and the rest of the world.
2. Browse through unlimited videos uploaded by other community members.
3. Join or create own video groups enabling people to connect with other people with similar interests.
4. Integrate videos on other websites using embed tags.
5. Make videos public or private when people upload to Lepak.TV server.
6. Allow people to promote or integrate their videos with friends using the latest promotional tools for MySpace, Facebook & Digg plus many others.

2.10 Comparison with Existing Video Sharing Portal

	uCast	Lepak.TV	Proposed Video Sharing Portal
Type of portal	Education	Entertainment	Education
Operating Platform	Internet	Internet	Intranet
Upload of videos directly from the user computer	YES	YES	YES
Video textual comments, ratings, favorites	YES	YES	YES
Video categories, title, tags, and description	YES	YES	YES
Make video public or private	YES	NO	YES
Allow or disallow video comments and also video embedding	YES	NO	YES
Edit video at anytime; change the title, description and tags	YES	YES	YES
Forum	NO	NO	YES
Chat Room	NO	NO	YES

Table 1: Comparison with Existing Video Sharing Portal in Malaysia

CHAPTER 3

METHODOLOGY

3.1 RESEARCH STUDY

The purpose of the research study is to collect data and analyze data to be further used in the design stage later on. There are many research methods that can be implemented according to the type of information that requires to be gathered.

In order to develop this project, three research methods have been selected namely literature review, interview, and questionnaire.

3.1.1 Literature Review

Based on the literature review, some valuable information on the concept of knowledge sharing, video as knowledge representation, and video sharing portal as a platform of knowledge sharing were discovered by reading journal, article, and book. Furthermore, analysis has been done on the existing web based portal in Malaysia to acquire some information on what functions are essential and which are unnecessary. The benefit from using literature review as a research method turned out to be very significant as it help developer to reinforce the important of this project.

3.1.2 Interview

In order to obtain a good understanding in the area of study, an interview was planned to be conducted. The target person is a university network executive from ITMS. In order to capture the expert experinces and opinions, open-ended questions were used more. From this method, it is expected to get more information that is useable to determine the project's technical feasibility.

As interview method is the supportive method used in this project thus, the data captured shall be more accurate and meaningful as it will also be used later as a support data that show how the educational valued video been currently stored and how the video sharing is implemented among UTP community.

3.1.3 Questionnaire

A questionnaire was developed aimed for university community which consist of students, lecturers and administrative staffs. The main purpose of it is to understand and to obtain information on the users's requirements and proposed system requirements. The questionnaire is designed by using the combination of open-ended and close-ended question in order to acquire three key pieces of information as below:

1. Personal profile of respondents
2. Experince on using web based portal
3. Desired features in a video web based portal

The questionnaire will be distributed to the university community which consist of students, lecturers and administrative staffs with a target of 50 respondents. Based on the completed forms, analysis will be done and it will be used further in the design stage. By implementing this step, it will assist to reduce the risk of developing a web based portal that is not meet the user's needs.

Other than questionnaire and interview methods, research has also been done by referring to journal, article, and website for data gathering purpose.

3.1.4 Methodology Used In Project Development

Prototyping based methodology was chosen for the development of this project. A prototyping-based methodology performs the analysis, design, and implementation phases simultaneously, and all of the phases are performed repeatedly in a cycle until the system is completed. With this methodology, the basic of analysis and design are performed, and work immediately begins on a system prototype.

Prototyping-based methodology is best suited to this project because it very quickly provides a system for users to interact with eventhough it is not ready for widespread university use at first. Therefore, users can interact directly with the prototype to better understand what it can do and cannot do so that developer will able to refine real requirements from users more quickly and able to fulfill users’s expectation and provide users’s satisfaction.

Below shows what are the complete requirements needed for the project and its life cycle:

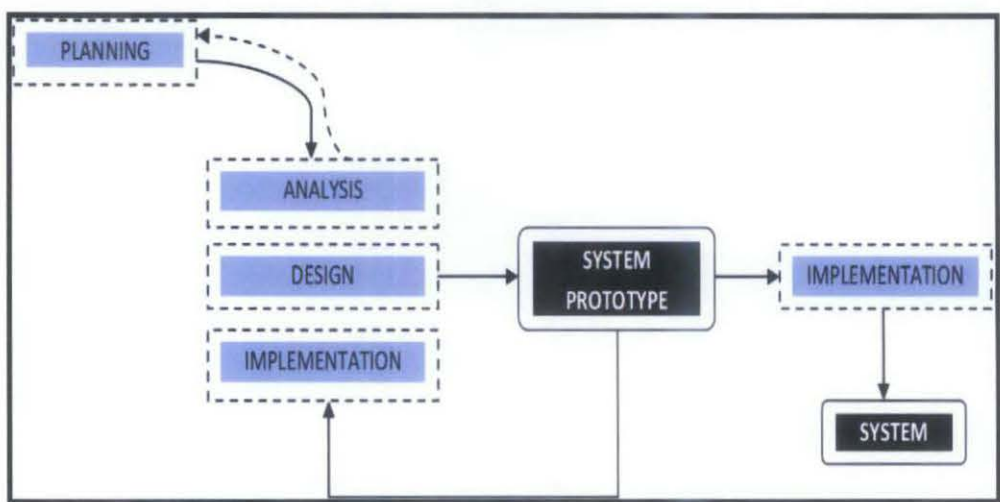


Figure 3: A Prototyping-based Methodology

PHASE 1 : PLANNING

As for the first phase, it covers the planning and analyzing the project. During this phase, the most important part is to gain a clear understanding about the project. The study on other similar video sharing portal must be done in order to clearly differentiate the functions of the purposed video sharing portal from the existing one, if any. The drawback form the existing video sharing portal can be one of the platforms for this proposed video sharing portal to come out with more beneficial features that align with its objectives.

In order to fulfill the requirements of this phase, research and study on the existing video sharing portal has been done and user requirements have been obtained. Research was done through the interview and questionnaire. Furthermore, to gain the feedback from university community, questionnaire has been distributed. The questionnaire was chosen as it is more suitable to relatively quick to collect information from a large number of people and the close ended type of questions has been chosen.

As for the project technical feasibility analysis, interview method has been chosen. Interview was conducted with one of the university network executive. From interview, it enable more additional information to be add and describe more on the issue of network and technical perspective in order to implement video sharing portal at Universiti Teknologi Petronas.

PHASE 2 : ANALYSIS, DESIGN AND IMPLEMENTATION

Data's gathered from both interview and questionnaire must be audit which later the result from it will be use in the development of the proposed video sharing portal. The data must be carefully assessed in order to determine the weaknesses of the other available video sharing portals nowadays and the user requirements in order to develop a video sharing portal that enable to provide a satisfaction as well as benefits to the target users. In addition, to make the proposed video sharing portal to become more attractive, interactive, and informative enough, some designing work will be done.

Furthermore, during this phase, a mock-up video sharing portal will be launched to get the feedback from the target users. It comes with purpose to amend or re-design the video sharing portal so that the target users will be satisfied and more appreciate the existence of the video sharing portal for the usage of university community. The correspondents will be chosen from the same correspondents from the first survey.

Additionally, from the testing, the data and information from users can be used on the next phase of the project. As for the User Acceptance Test, the test scenario and observation of the video sharing portal will be run.

PHASE 3 : DESIGN

For the design phase, the video sharing portal will be named as YOUtp. Improvement for video sharing portal will not be stop with the development of one project as knowledge management is a continuous process. Therefore, from time to time, the re-designing and amendment will be done based on the users's feedback in order to ensure the video sharing portal manage to provide satisfaction and benefit the university as a whole. In addition, the video sharing portal is intended to alive on domain name <http://localhost/YOUtp>

PHASE 4 : IMPLEMENTATION

The video sharing portal is expectedly to run smoothly and functioning aligns with its objectives and manage to fulfill users's satisfaction and expectation. Therefore, before the video sharing portal is being fully implemented for the usage of university community, it will undergo the relevant user acceptance testing. This is to ensure the final outcome of this project is reliable and manage to functions effectively and meets the user's requirements.

CHAPTER 4

RESULT AND DISCUSSION

This chapter is about the results and findings from previous chapter. It is divided into a few elements namely, requirements gathering, system analysis, and system architecture.

Requirements gathering details on the findings from the interview, and questionnaire. System analysis includes functional modelling in order to describe the functionality of the system. Meanwhile, system architecture shows the flow of data from user to the inner system and back.

4.1 QUESTIONNAIRE RESULT ANALYSIS

A total of 50 sets of questionnaires were distributed in between 28th Mac to 4th April 2011. They were given to Universiti Teknologi Petronas community. Out of these, only 47 sets (94%) were taken into the analysis for this project because the rest were incomplete.

The purpose of the questionnaire is to collect data and analyze findings on the user's requirements and opinions on the implementation of the video sharing portal at Universiti Teknologi Petronas.

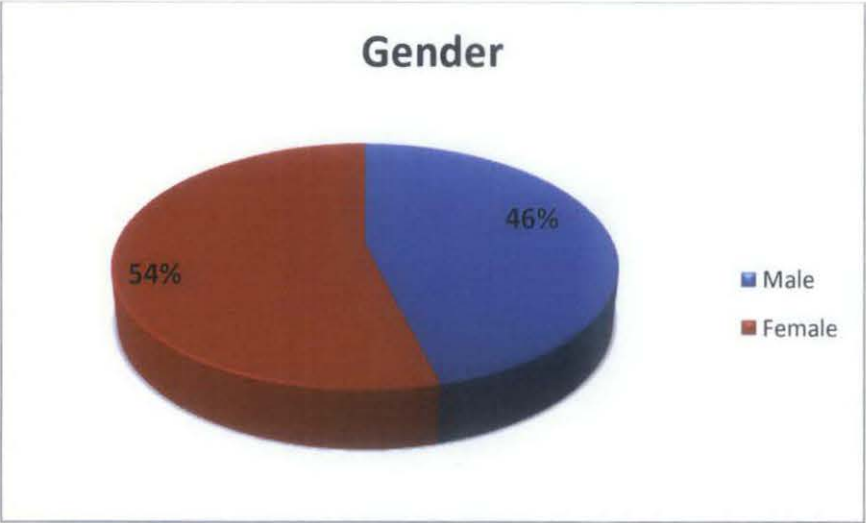


Figure 4.1: Respondent's Gender

Figure 4.1 shows that 54% of the respondents are female while the remaining male. This describes that, out of 47 respondents, more female than male respondents have took part in the survey.

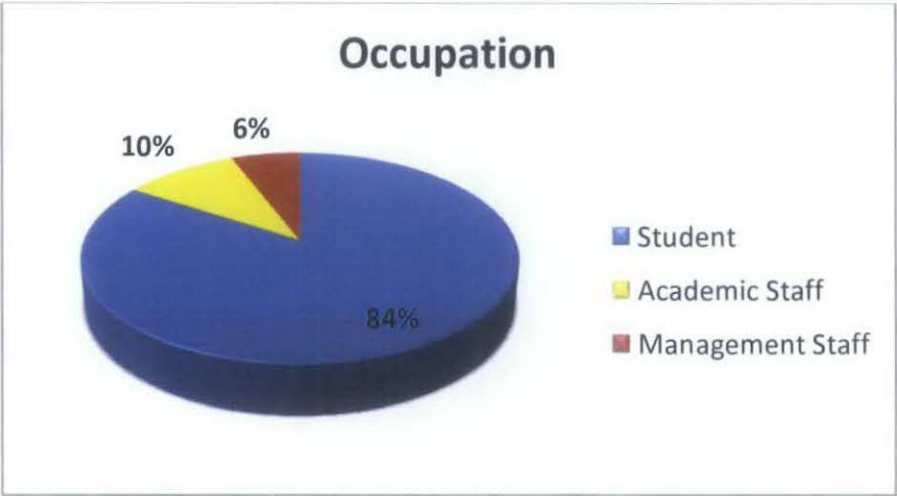


Figure 4.2: Respondent's Occupation

Figure 4.2 describes the respondent's occupation. More than half respondents are students. Meanwhile, 10% of the respondents are Academic Staffs and the remaining are Managements staffs. This shows that the results are from the main target users as majority members of Universiti Teknologi Petronas community are students.

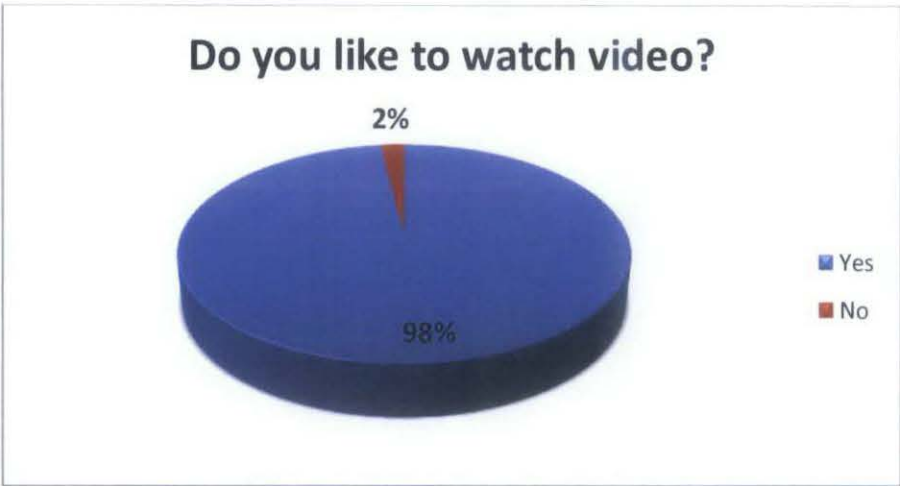


Figure 4.3: Respondents view on whether like to watch video

Figure 4.3 shows how many respondent like to watch video. 98% of the respondents like to watch video and only 2% dislike to watch video. Based on the result, developer assumes that the project of Video Sharing Portal is appropriate for the target users.

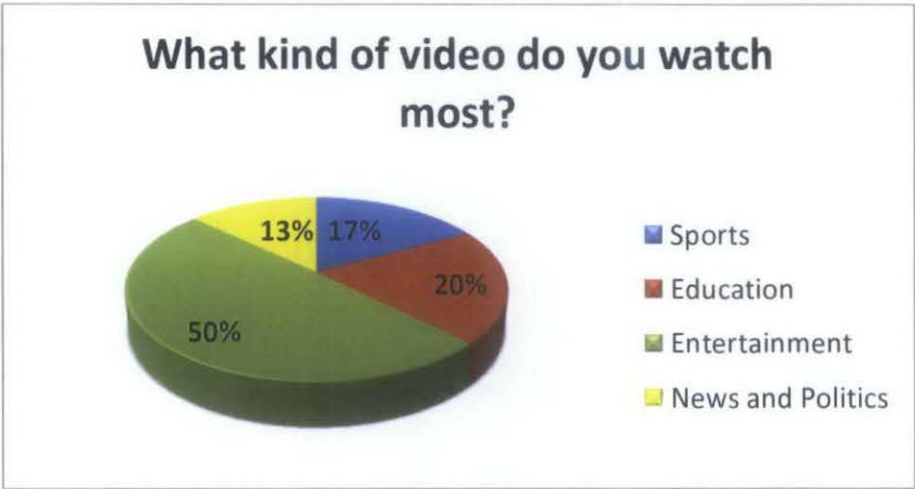


Figure 4.4: Most video watched by respondent

Figure 4.4 depicts the type of video that respondents watch most. Half of the respondents watch Entertainment videos. Meanwhile, 20% of the respondents watch Education videos, however only 17% of the respondents watch Sports videos and the remaining watch News and Politics videos. Based on the finding, it help developer to determine the interest of the respondents thus it may help developer to provide a better video content for the usage of the target users.



Figure 4.5: Most visited video sharing site

Figure 4.5 illustrates which video sharing site that respondents mostly logged in. 88% of the respondents mostly logged in YouTube instead of other Video Sharing Site such as Metacafe, BREAK, and Google Video. Only 7% out of the respondents use Google Video while 5% out of this amount use Metacafe. However, none of the respondents use BREAK. Developer assumes that the cause of this result is due to the high popularity of YouTube among people in the world nowadays.

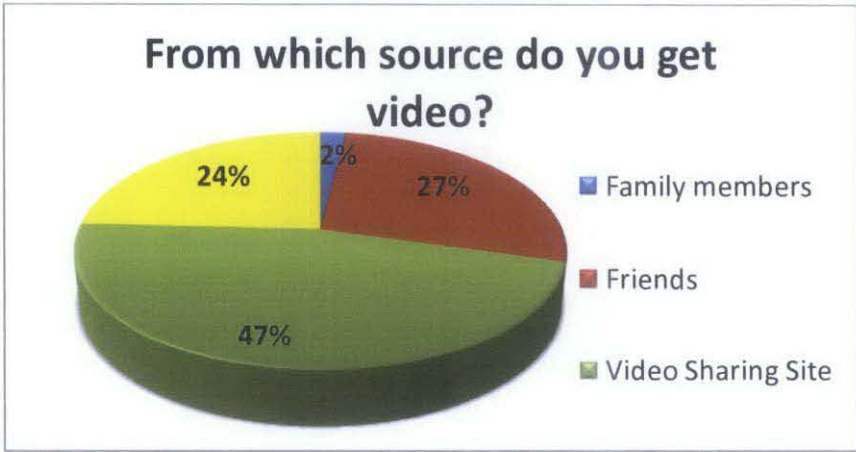


Figure 4.6: Respondent’s video source

Figure 4.6 shows that almost half of the respondents get video from Video Sharing Site. 27% of the respondents get videos from their friends, while 24% of the respondents get videos from Social Networking Site. Only 2% out of the respondents get video from their family members.

The reason for this is most probably because video sharing site offers variety of videos from all over the world thus it give more choices for users. Not just that, it is probably because of video sharing site is easily accessible for everyone at anytime, from anywhere as long as they have internet connection.

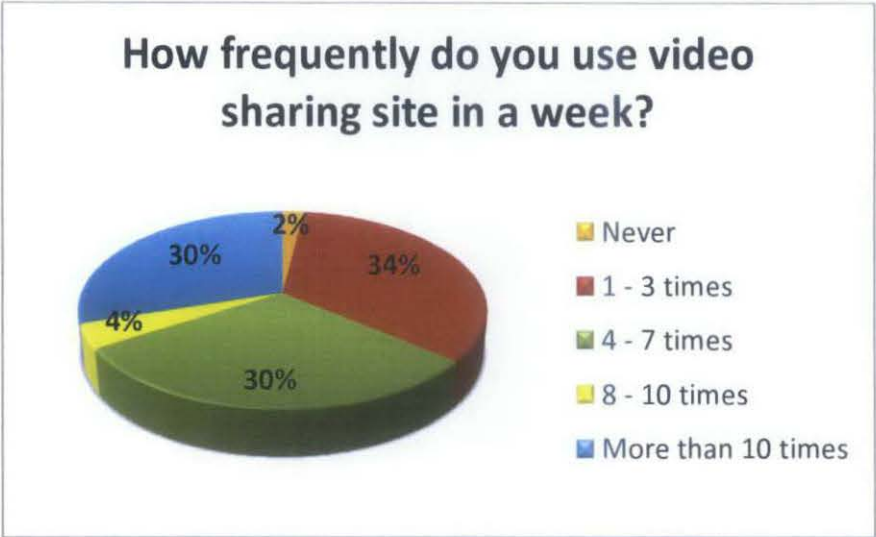


Figure 4.7: Weekly usage of video sharing site

Based on the weekly usage of video sharing site, 34% of the respondents use video sharing site once to 3 times per week. Moreover, 30% of the respondents use video sharing site four to seven times and more than 10 times. Meanwhile, 4% eight to ten times, and only 2% never use video sharing site.



Figure 4.8: Gaining knowledge via video sharing site

Figure 4.8 depicts the results for the question on whether respondents use video sharing site to gain knowledge. Majority of the respondents answered yes and only 18% out of the respondents answered no.

Based on the result, it shows that video sharing site has became one of the alternatives for people to acquire knowledge other than usual ways such as reading books or attend lectures.



Figure 4.9: Respondent view on whether video stored in a video sharing site a useful knowledge representation

Figure 4.9 illustrates respondents’s opinion on whether videos stored in a video sharing site a useful knowledge representation. More than half of respondents found that video stored in a video sharing site are useful knowledge representations. However, another 33% of the respondents did not find videos stored in a video sharing site useful. From the finding, developer assumes that the cause of the result is because most of the video sharing site nowadays are not mainly focus on education purpose. Thus, not all videos stored in a video sharing site are beneficial for people who want to acquire knowledge. Not just, it may also because of some low quality of videos stored in a video sharing site which may cause of difficulty to see and understand the content of the videos.



Figure 4.10: Respondent view on whether it is easy to search preferred video via video sharing site

Figure 4.10 shows that 67% which is more than half of the respondents found that it is easy to search their preferred video via video sharing site. Meanwhile, 33% found that it is not easy to find their preferred video via video sharing site. This result could be because video sharing site offers variety of videos for users to watch and the videos are arranged under their own category. Moreover, most of video sharing site provides Search Box which facilitate users to find their preferred video in the easiest way.

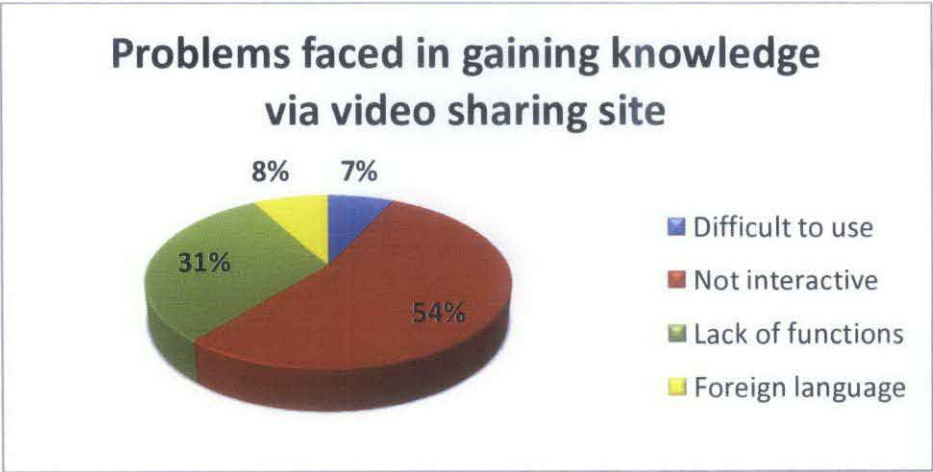


Figure 4.11: Problems faced in gaining knowledge via video sharing site

Figure 4.11 illustrates the result of the problems that respondents faced in gaining knowledge via video sharing site.

A total of 54% say it is because not interactive. While 31% of the respondents say, it is because lack of functions. Another 8% of the respondents say it is due to the usage of foreign language for example English language and 7% says it is due to the difficulty of using video sharing site.

According to the result, it proves that there are some improvements required in order to enhance the effectiveness of video sharing site so that users could gain knowledge via video sharing site at the most effective way.

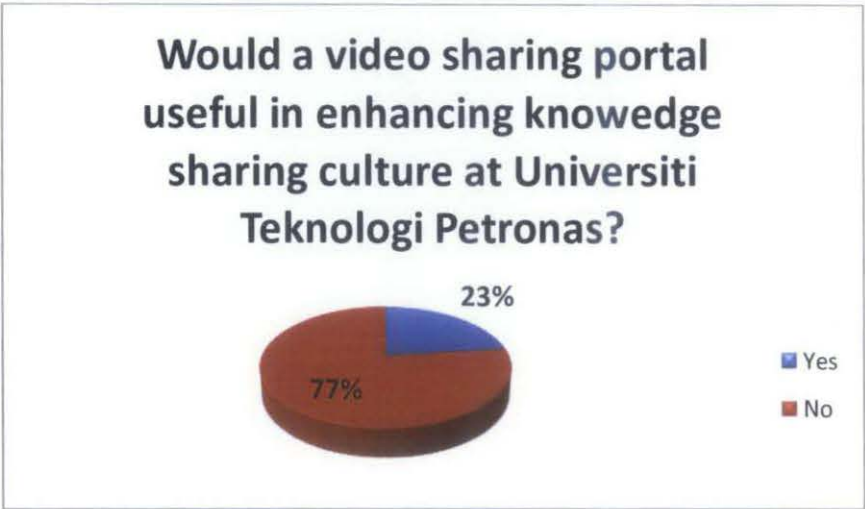
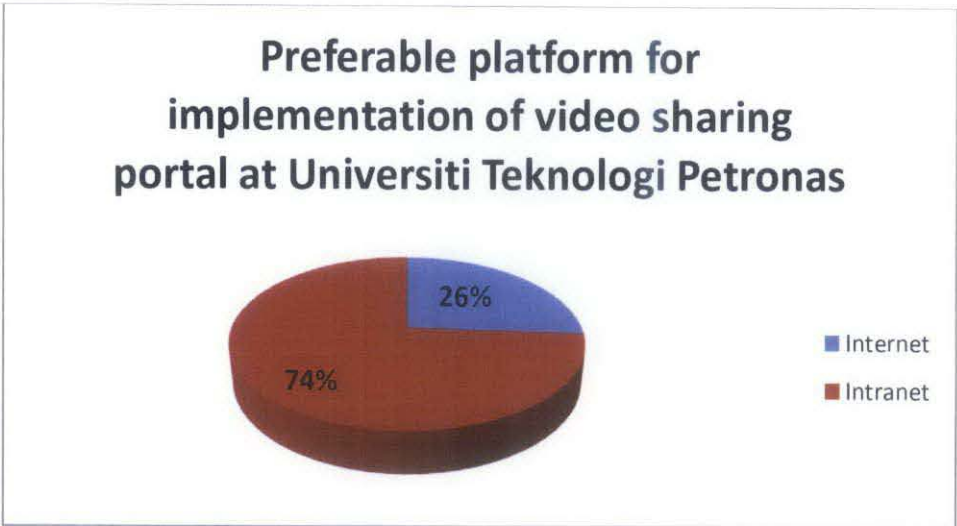


Figure 4.12: Opinion on whether video sharing portal useful in enhancing knowledge sharing culture at Universiti Teknologi Petronas

Figure 4.12 shows that 77% of respondents believe that it is useful to implement video sharing portal in order to enhance knowledge sharing culture at Universiti Teknologi Petronas. Another 23% do not feel that the implementation of video sharing portal is useful in enhancing knowledge sharing culture at Universiti Teknologi Petronas. Based on the result, it shows majority of respondents support the idea of implementation of video sharing portal at Universiti Teknologi Petronas. Therefore, developer finds this result very promising for the development of a video sharing portal for the usage of Universiti Teknologi Petronas community.



**Figure 4.13: Platform for implementation of video sharing portal
at Universiti Teknologi Petronas**

Figure 4.13 shows respondents view on the most suitable medium for implementation of video sharing portal at Universiti Teknologi petronas. 74% of respondents chose intranet and only 26% of respondents chose internet. Therefore, intranet will be used as the medium for the implementation of video sharing portal at Universiti Teknologi Petronas.

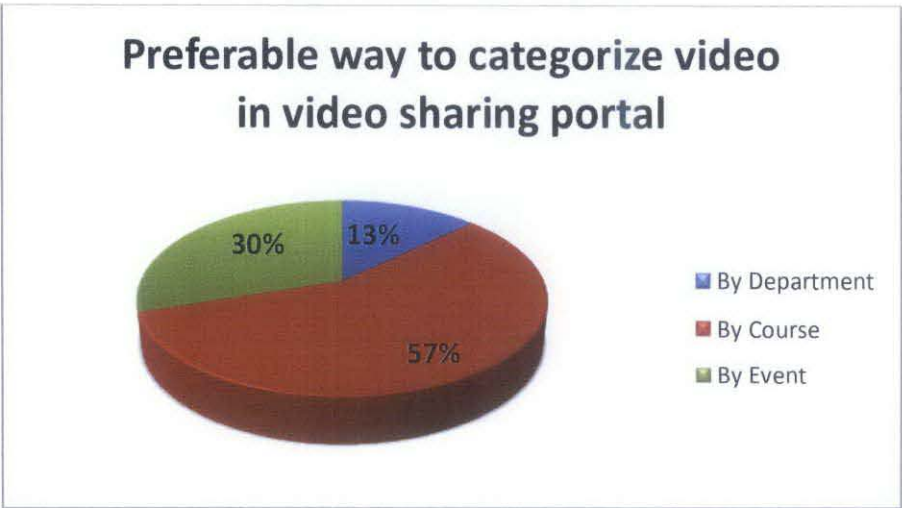


Figure 4.14: Most preferred way to categorize video in video sharing portal

Figure 4.14 depicts which is most preferred way to categorize video in video sharing portal. Based on the questionnaire, more than half of the respondents chose By Course in order to categorize videos in video sharing portal. 30% of the respondents chose By Event and only 13% chose by department.

Based on the result, developer will categorize videos in video sharing portal by department in order to fulfill users’s satisfaction.

Functions	Points Σ (Rank x Amount of Respondents)	Maximum Point (Highest Rank x Total Respondents)	Percentage (%)
Forum	159	235	68
Chat Room	157		67
Video Post Comment	142		60
Embed video on other sites	147		63

Table 2: Opinion on required functions to make a video sharing portal more interactive

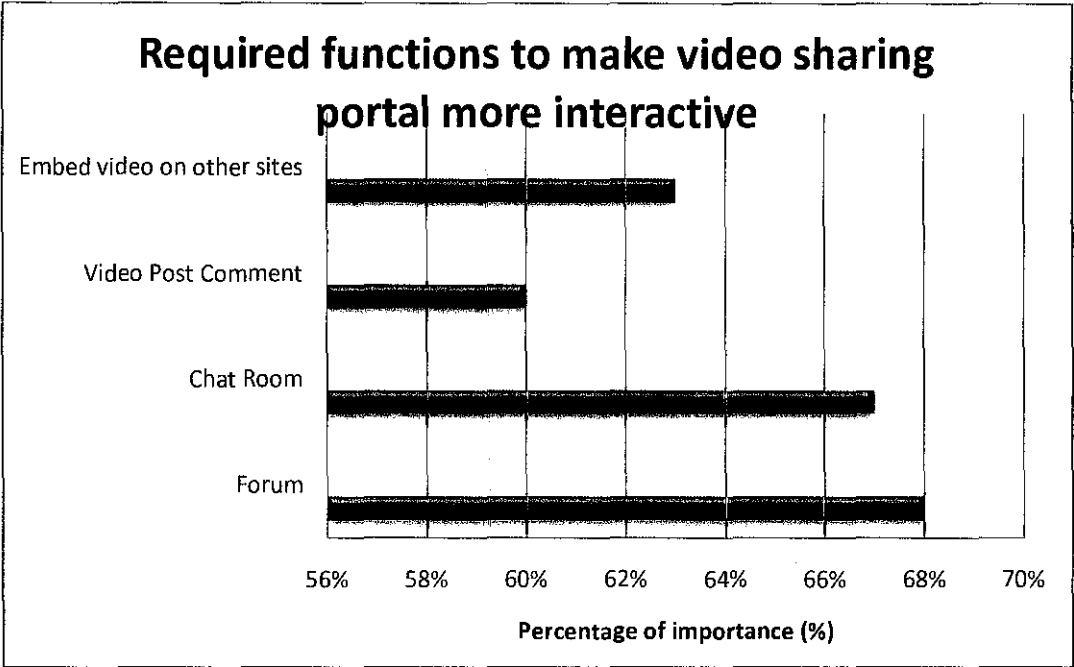


Figure 4.15: Opinion on required functions to make video sharing portal more interactive

Respondents were given a list of possible functions to be included in the video sharing portal in order to make it more interactive. They were asked to rank each from a scale of 1 to 5. 1 being not at all useful and 5 being most useful.

The total amount of respondents for each ranking was then multiplied by the rank. The sum of each total became the points derived for the attribute.

Table 2 summarized the points and percentage for each attributes. Figure 4.15 then presents it in a more comprehensive way. As seen, all of the attributes have small difference in percentages between them. Thus, all these attributes will be included in the video sharing portal as developer assumes that all of the attributes are required in order to make video sharing portal more interactive.

Functions	Points Σ (Rank x Amount of Respondents)	Maximum Point (Highest Rank x Total Respondents)	Percentage (%)
Upload and retrieve video	193	235	82
Search Box	187		80
Search by Category	184		78
Create video playlist	159		68
Video post rating	143		61
Video screenshot preview	152		65
Help/Support	177		75

Table 3: Opinion on required functions of video sharing portal

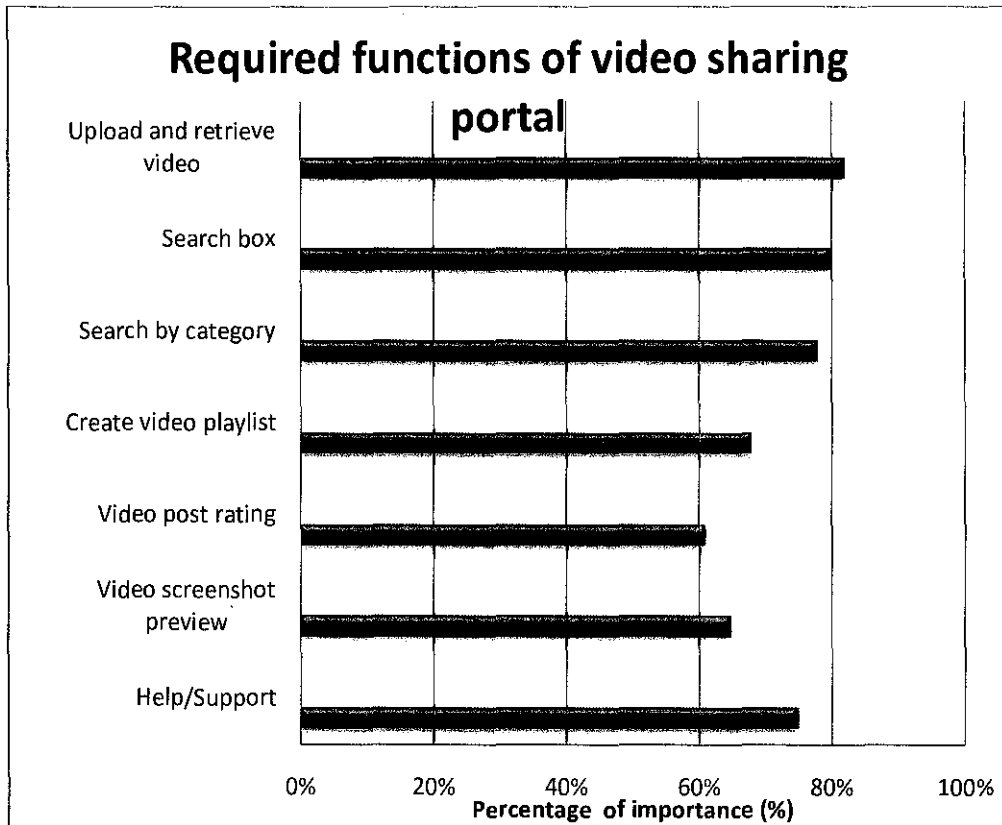


Figure 4.16: Opinion on required functions of video sharing portal

Table 3 and Figure 4.16 summarizes respondents view on the required fucntions of the video sharing portal. All out of seven attributes showed significant importance as all of the attibutes have a small difference percentage among them. The most required function is Upload and Retrive videos (82%) followed by Search Box (80%) and search by Category (78%). Help/ Support (75%) followed by Create Video Playlist (68%) and Video Screenshot Preview (65%). The function that respondents found not so important is Video Post Rating (61%). Among the different functions, only small difference percentage among them, thus developer has decided to include all of the functions in video sharing portal in order to make it more useful for the target users.

4.2 INTERVIEW

A short interview was conducted on 23 February 2011. The interview was done formally with one of the Universiti Teknologi Petronas Network Executive, Mr. Arfaishah Bin M Aarih. From the interview, some useful informations were gained mainly on network and technical perspectives to determinine whether it is feasible technically to implement a video sharing portal at Universiti Teknologi Petronas. Below shows some points that have taken from the interview:

- Currently, all of the University official events were recorded and most of them were stored in the form of hard copy such as in CD-ROMs.
- University's backbone is 18bit/s, thus it is feasible technically in order to have video sharing portal for the usage of university community as long as it is being implemented locally (intranet).
- Based on the technical perspective, some of requirements need to be fulfilled in order to make the usage of video sharing portal more effective and smooth. One of the important element is the capability of university server. Multiple server is required to serve multiple users. One server should act as application server while another one should become as storage. It is also crucial to determine the most effective video compression techniques in order to maintain the quality of video as well as the transmission speed.

4.3 SYSTEM ANALYSIS

4.3.1 USE CASE DIAGRAM

1. Use Case Diagram: User Account Function

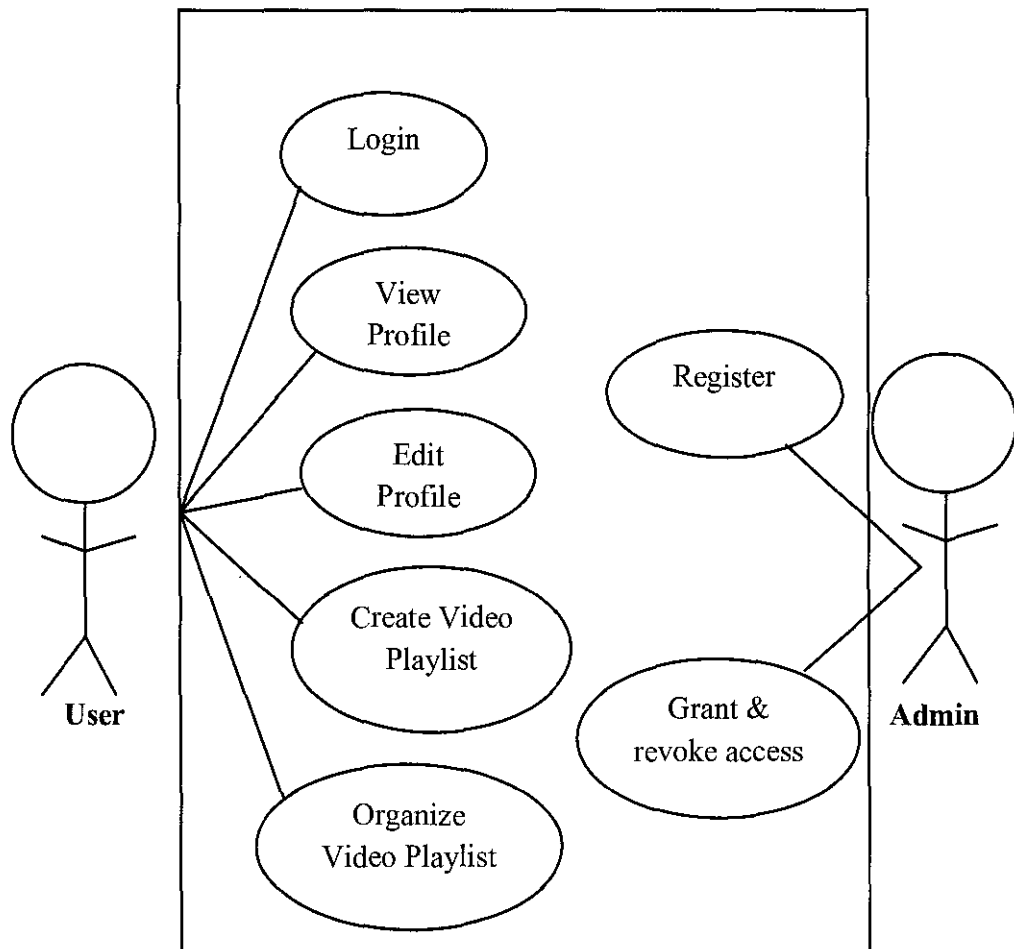


Figure 4.17: Use Case Diagram of User Account Function

Video Sharing Portal, YOUtp will only have three type of users namely Guest, Registered User and Administrator. Only registered users are allowed to get access to the video sharing portal and registration process can only be done and managed by the admin. For unregistered users, they have to undergo a registration process or else they will only be able to view videos.

After registration process is done, users will be grant username and password from admin which will enable them to get access to the video sharing portal. As for registered users, they will be able to edit, view or delete information from their profile and able to create and organize their video playlist. Furthermore, there were two level accesses for this video sharing portal, which is user or administrator. Administrator will have the authority to grant or revoke from members.

2. Use Case Diagram: Forum

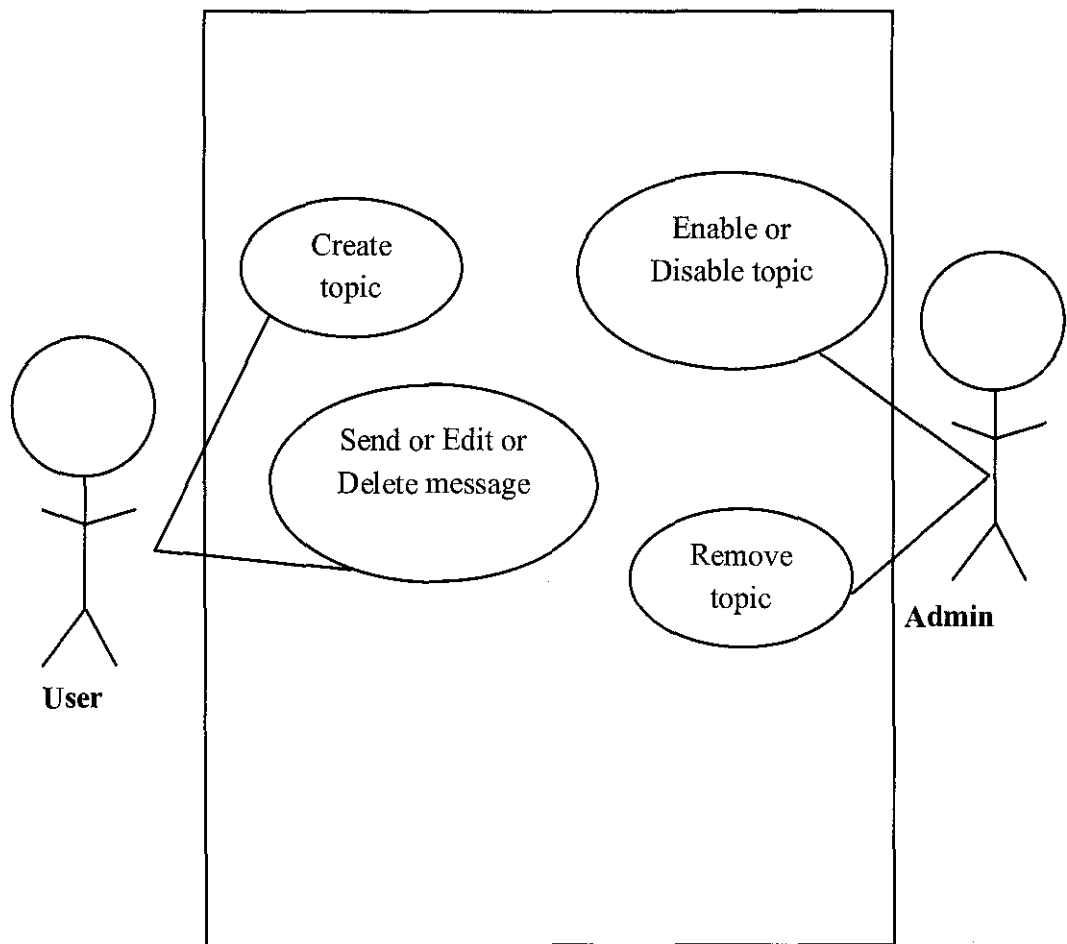


Figure 4.18: Use Case Diagram of Forum Function

Users of video sharing portal will be able to create any new topic for discussion with others members. Furthermore, users will be able to respond to the respective topics where they can reply, edit or delete the message sent. Meanwhile, administrator will have the authority to remove any irrelevant topic or enable and disable any respective topics.

3. Use Case Diagram: Chat Room

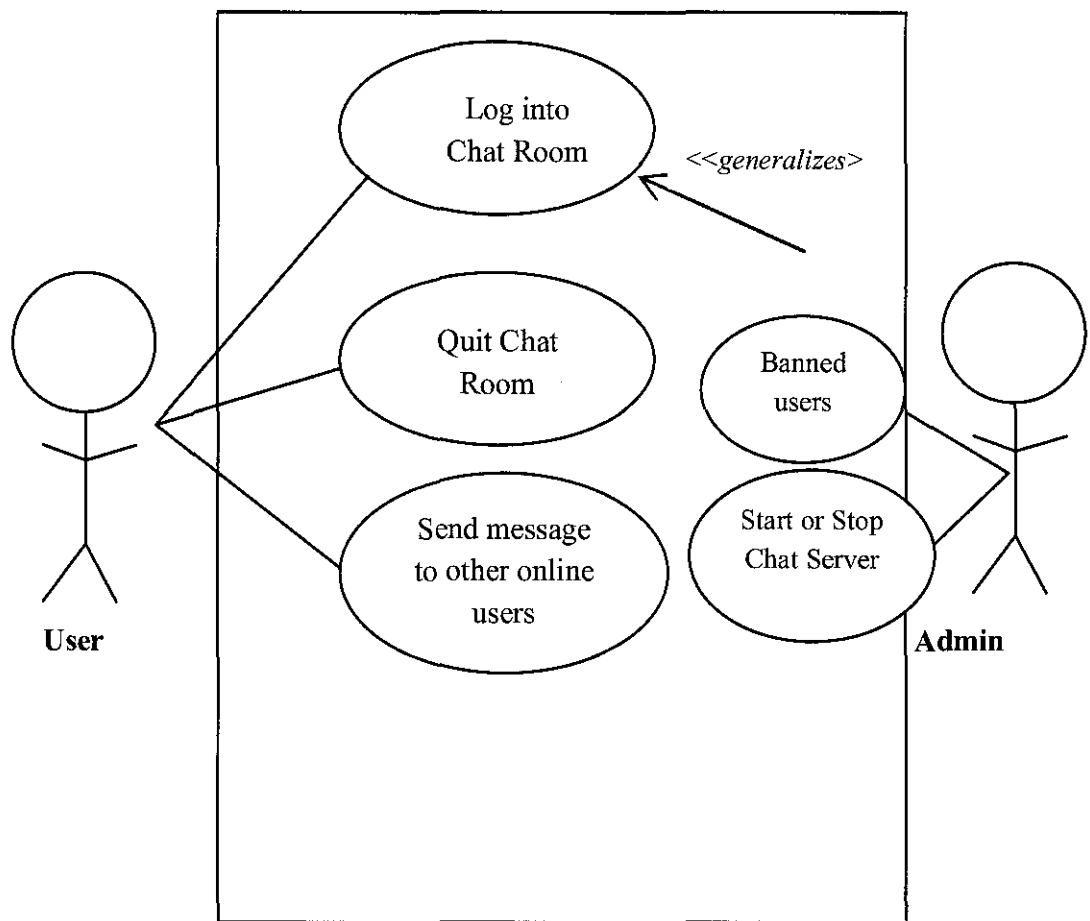


Figure 4.19: Use Case Diagram of Chat Room Function

Users will be able to log into chat room to start a more interactive conversation with other online users. Users can also quit from the chat room at anytime they want. Meanwhile, administrators will have the authority to manage the chat room where they can ban respective users under certain circumstances and start or stop chat server.

4. Use Case Diagram: V-Portal (Upload / Retrieve File)

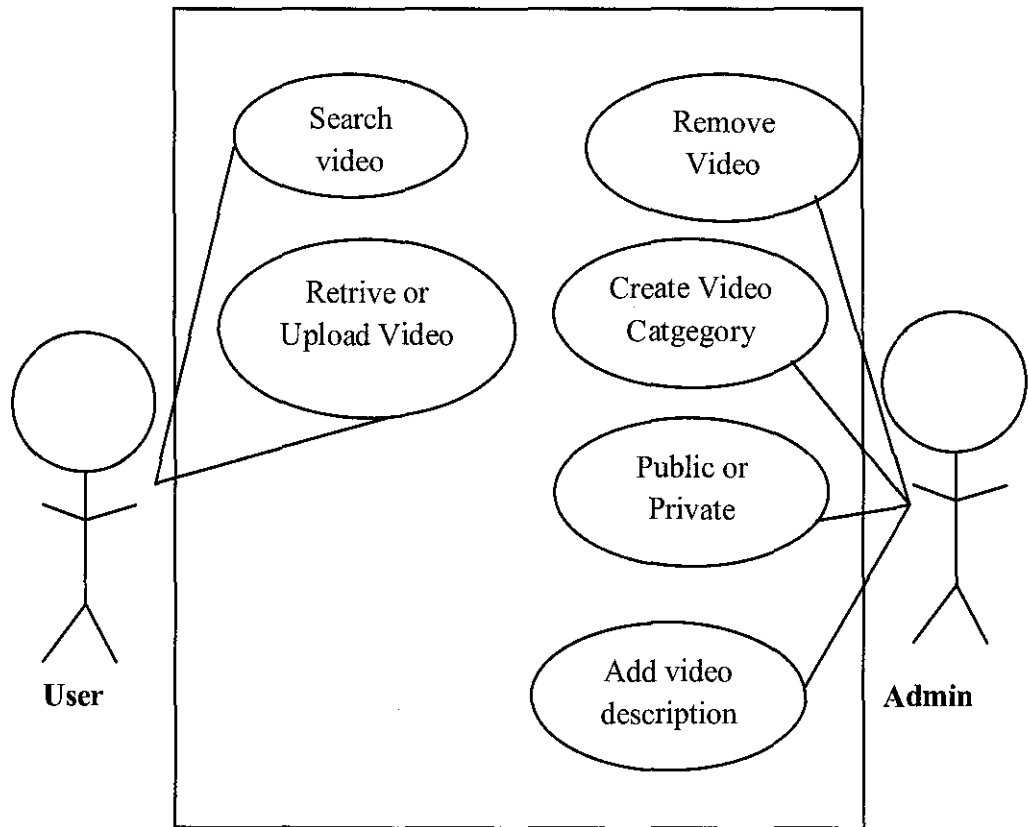


Figure 4.20: Use Case Diagram of Upload/Retrive video function

As for the YOUtp functionalities, users will have easy uploading of videos directly from their computer but it is subject upon administrator approval. Furthermore, users can retrieve video that is available in the video sharing portal, YOUtp. To ensure easy retrieval, user can use Search function and sort it accordingly. However only the administrators have the authority to create new category into the YOUtp assets. Not just that, administrators will have the authority to remove any outdated or irrelevant materials and only them can add video description and make video public or private.

5. Use Case Diagram:Polls

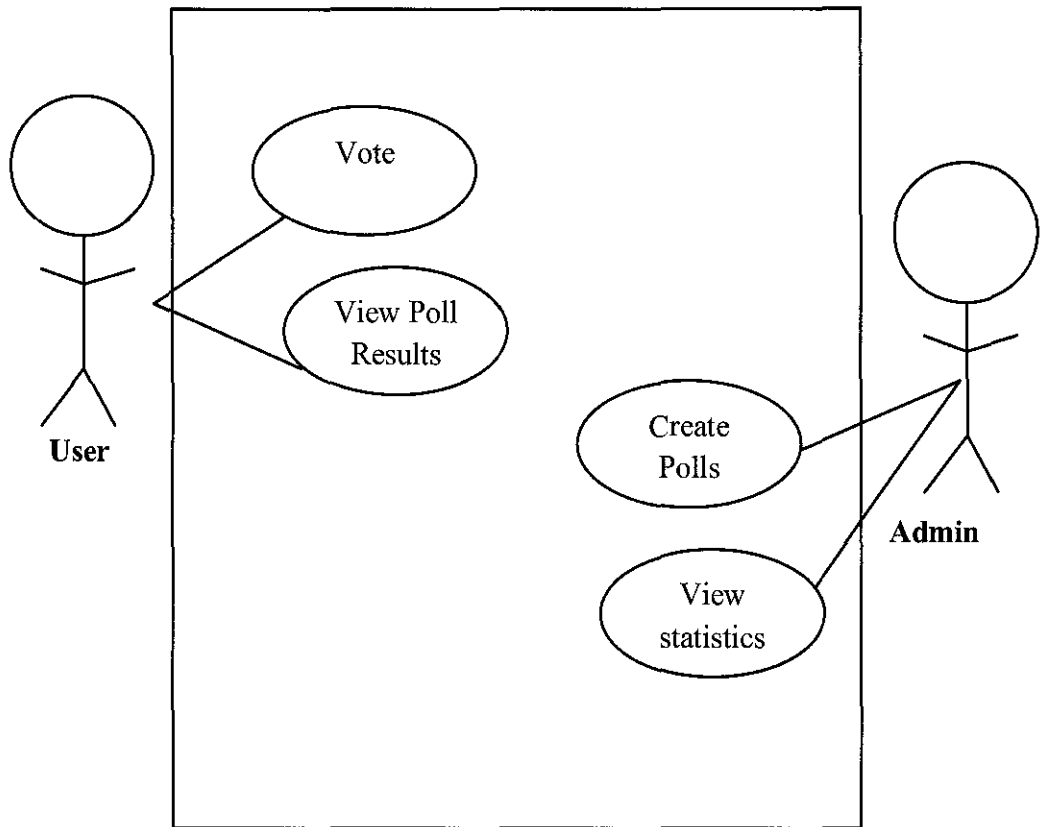


Figure 4.21: Use Case Diagram of Poll function

YOUtp users will be able to vote for any respective polls and view the results of the survey. Meanwhile, administrator can create new topics for polls and will be able to view the statistics of the voter.

5. Use Case Diagram:Polls

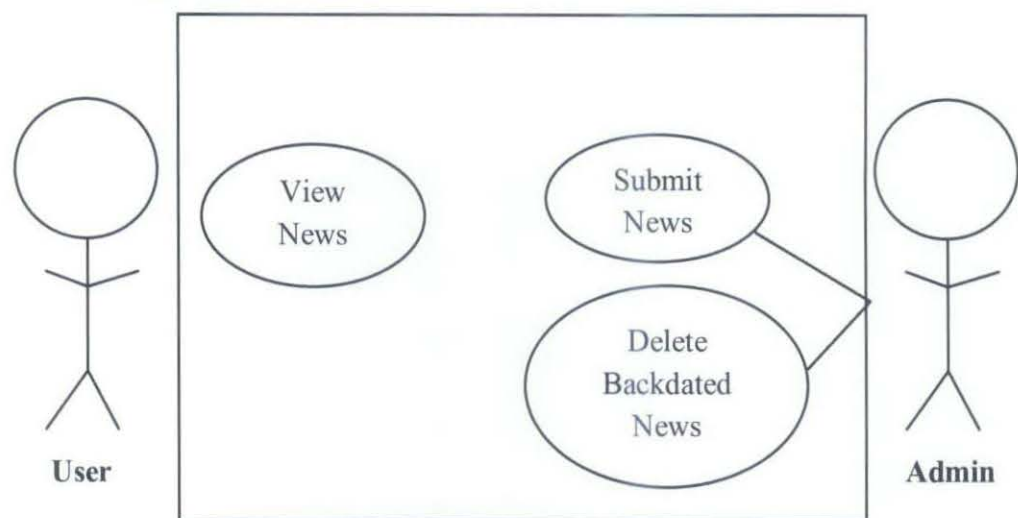


Figure 4.22: Use Case Diagram of News function

YOUtp users can view news while only administrators will have authority to submit latest news and delete backdated new.

4.4 SYSTEM ARCHITECTURE

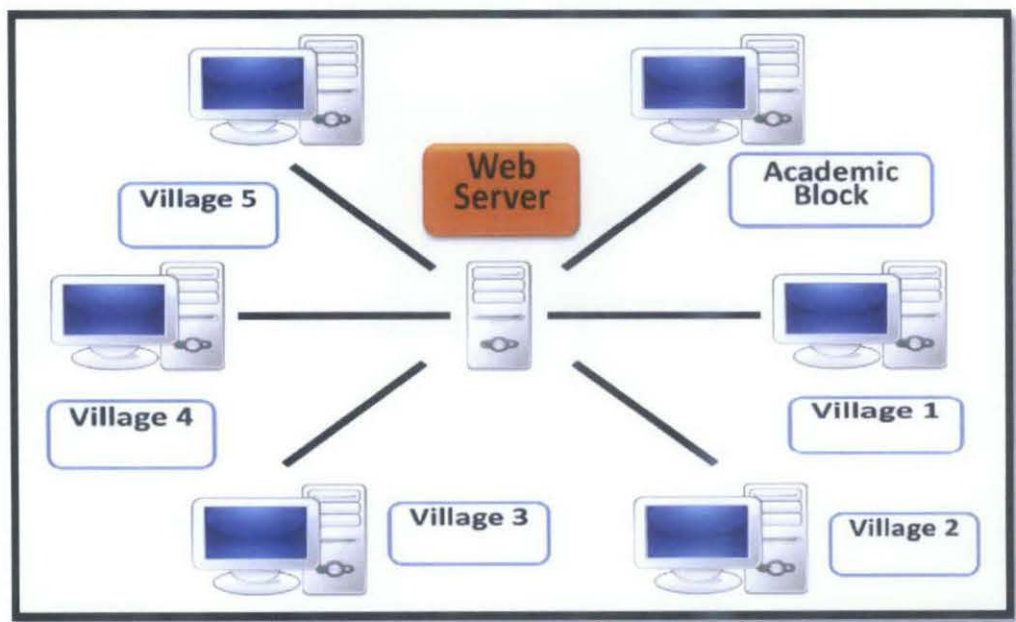


Figure 4.23 : Client-Server Architecture

Client-Server architecture has been implemented in the development of Video Sharing Portal, YOUtp. There are two main components involved namely Server and Client. The provider of a resource or service called Server whereas Server Requestors called Client. For this project, the client for the systems are users from Academic Block, Village 1, Village 2, Village 3, Village 4, and Village 5.

Moreover, developer’s machine is the web server which plays a role as a host that runs the YOUtp server programs in order to share its resources with clients. A client does not share any of its resources, but requests a server’s content or service function. Clients therefore initiate communication sessions with servers which await incoming requests.

4.4.1 DATA FLOW

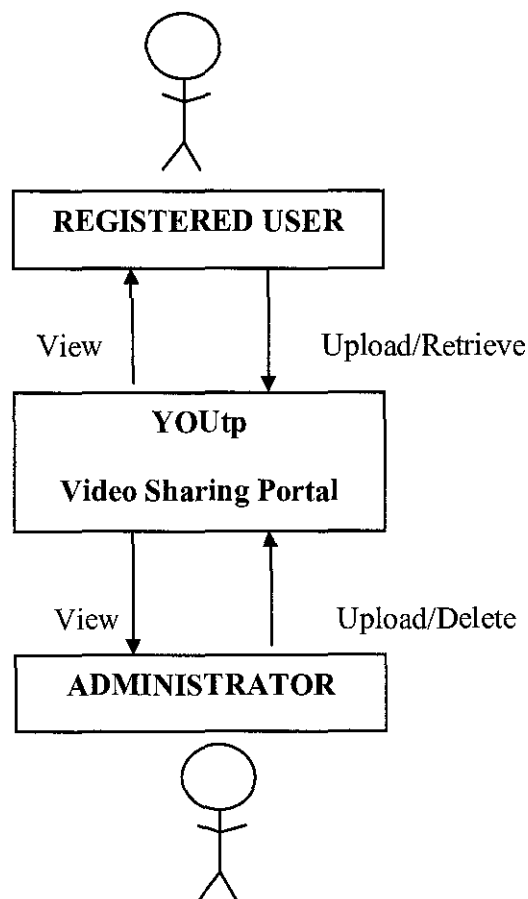


Figure 4.24: Data Flow for YOUtp Video Sharing Portal

Figure 4.24 describes the video sharing portal, YOUtp data flow. Firstly, user will need to LOGIN before they will be able to access the YOUtp and only registered users will be permitted to access the portal.

Through this video sharing portal, YOUtp users will be able to upload their own video subject to admin approval. After video is approved, administrator will upload it into YOUtp storage so that the videos will be easily accessible by every users.

Furthermore, YOUtp the Video Sharing Portal provides knowledge warehouse where knowledge in the form of video products being stored and readily accessible by all users. Videos will be categorized by courses offered at UTP and other general categories such as Sports, Entertainment, How to & Style. Search box is available for user to use for more easy and practical video retrieval and under specific subtopic, users will also be able to find the respective video products and will be able to retrieve it.

Another function that make YOUtp Video Sharing Portal more interactive is forum. Forum will allow users to create new topic and have discussion on it. Another function that available on YOUtp are Polls and Event Calendar. Administrators can post polls in YOUtp and users can take part in the voting process and view the result of the survey. From polls, it can be one of the method for administrator to get update on the latest interest and update from the users preferences. Administrators can also provide information about UTP Upcoming Events in YOUtp to bring the latest update on university activities for the users.

4.5 USER ACCEPTANCE TESTING

4.5.1 Objective

User Acceptance Testing (UAT) comes with the purpose to test the Video Sharing Portal, YOUTp functionalities according to user preferences and user's opinion on the implementation of YOUTp as another platform to enable knowledge sharing activity as well as one of the alternatives to manage knowledge at UTP. Thus, this will give more opportunity for the developer to improve the portal for betterment of the future.

4.5.2 Method

User Acceptance Testing has been performed within three days to the same correspondents for the survey which is UTP community and the Mock-up portal was used within three days of limit time.

During User Acceptance Testing, the correspondents for the survey are allowed to use the Mock-up portal, and they require to respond to the survey questions based on their experience using the Mock-up portal.

The developer will then evaluate the survey result in order to determine whether the Mock-up portal behaves and produces the results expected by users. Based on the evaluation, developer will take action accordingly.

4.5.2 Results

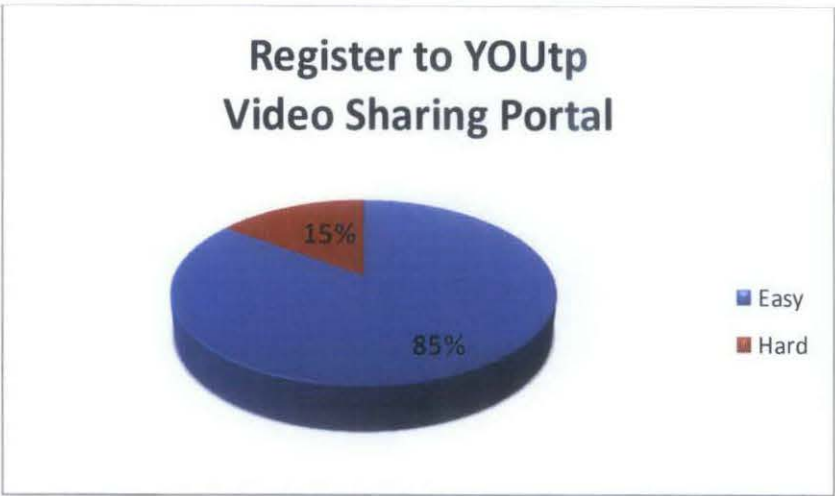


Figure 4.25: YOUtp Registration

85% user finds it easy to register to YOUtp Video Sharing Portal and the rest said it is hard to edit profile.

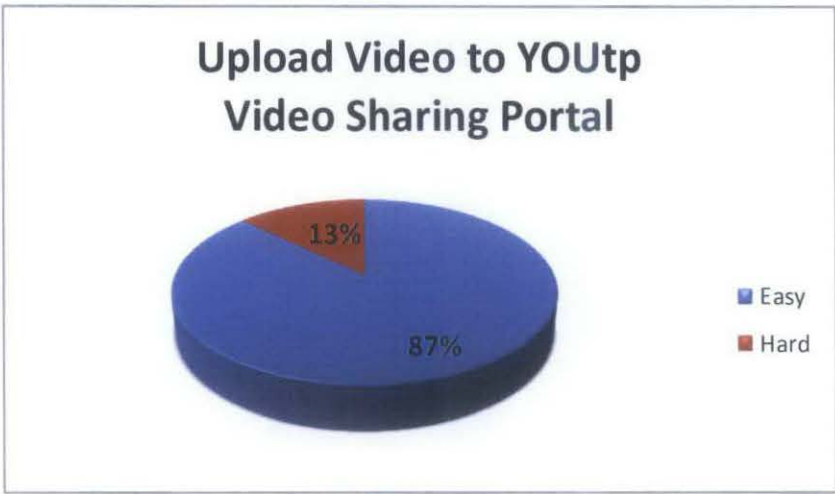


Figure 4.26: Upload Video

87% users finds it easy to upload video to YOUtp Video Sharing Portal , whereas 13% finds it hard.

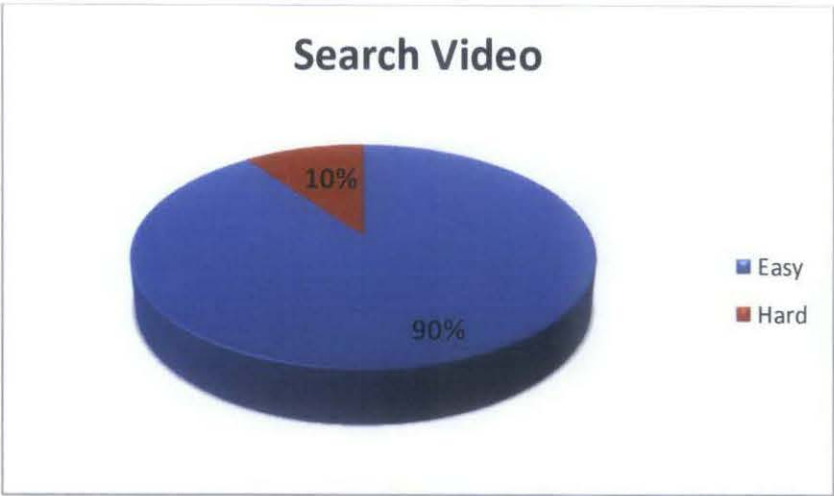


Figure 4.27: Search Video

90% users find it easy to search video from YOUTp Video Sharing Portal, and only 10% find it hard.



Figure 4.28: Posting Comment

92% users find it easy to post comment on YOUTp forum and the rest find it hard.

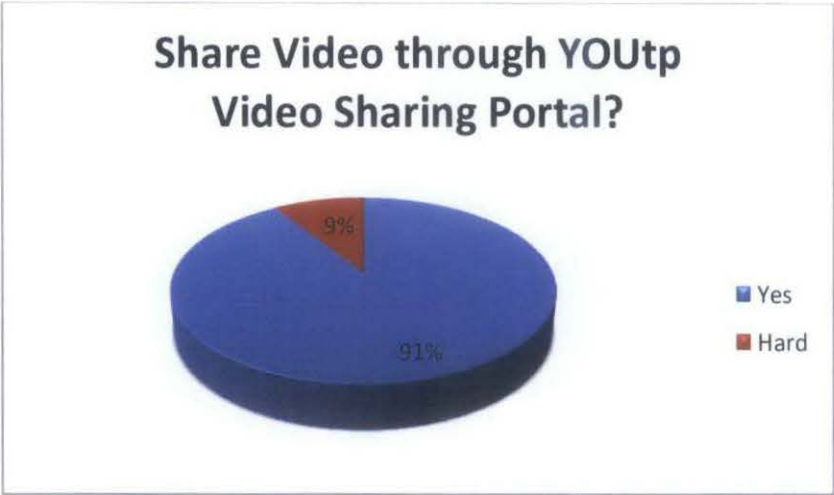


Figure 4.29: Willingness of respondents to share video through YOUTp

40% said yes that they will share video through YOUTp Video Sharing Portal, 9% said no.

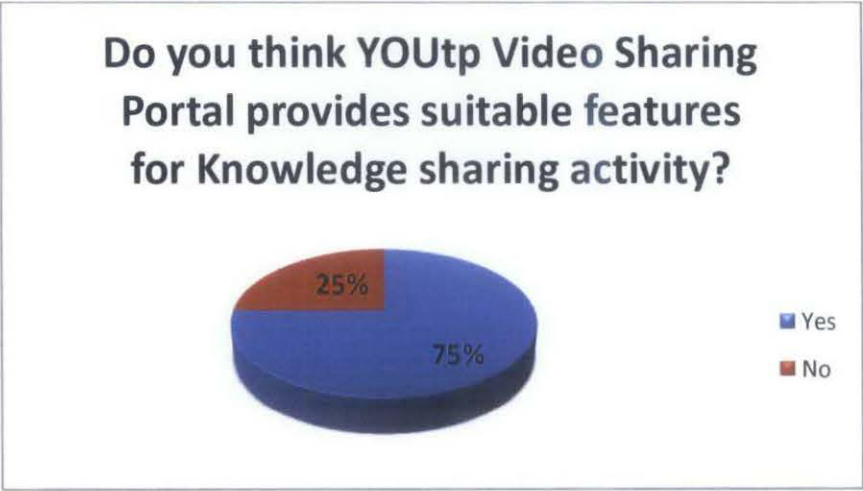


Figure 4.30: User’s Opinion on suitability of YOUTp features for knowledge sharing activity

More than half users think that YOUTp Video Sharing Portal provides suitable features for knowledge sharing activity and the rest think it is not suitable.

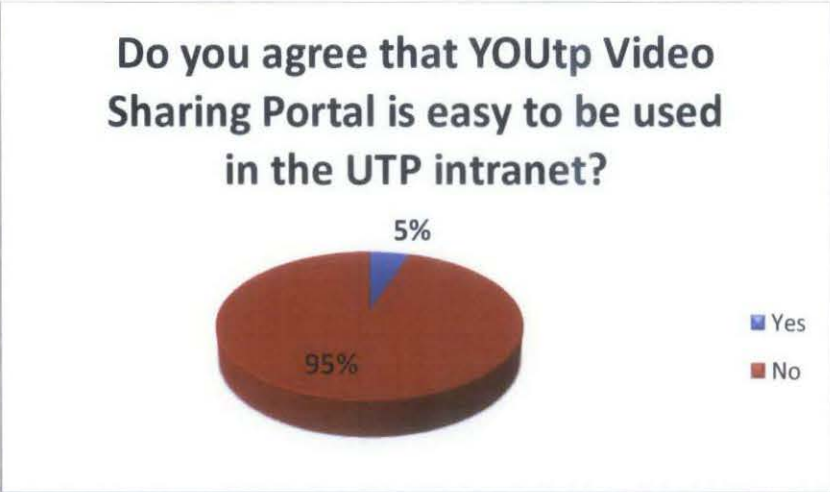


Figure 4.31: User’s Opinion on the implementation of YOUtp in the UTP intranet

Majority of users agreed that YOUtp Video Sharing Portal is easy to be used in the UTP intranet whereas 5% users disagreed.

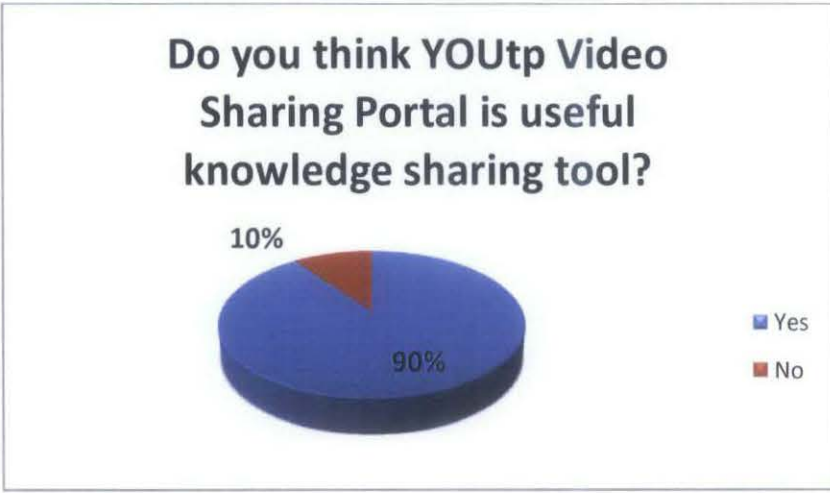


Figure 4.32: User’s Opinion on the usefulness of Youtp as knowledge sharing tool

90% users think that YOUtp Video Sharing Portal is useful knowledge sharing tool and 10% users said no.

4.6 VIDEO SHARING PORTAL FUNCTIONALITIES

Screen Shot 1:

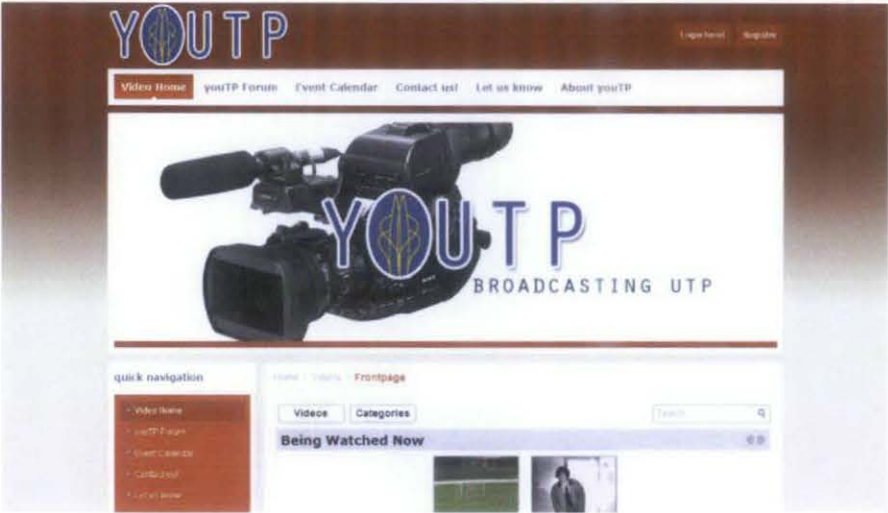


Figure 4.33 : Home Page

Users are required to LOGIN before they will be able to access the UTP Video Sharing Portal. Only registered users will be permitted to access the portal.

Screen Shot 2:



Figure 4.34 : About YOUTp

Description about YOUTp, the Video Sharing Portal.

Screen Shot 3:

How do you want to add videos?

Upload method

Upload a video from my computer

Continue...

Upload Video (Step 1 of 2)

Title *

Description *

Category *

Choose a category

Chemical Engineering

Civil Engineering

Computer Information System

Electrical and Electronic Engineering

Entertainment

Film & Animation

How To & Style

Mechanical Engineering

Petroleum Engineering

Tags *

Tags are keywords used to explain your videos and should be comma separated. (Holidays, beach, Spain, etc)

* indicates required field

Sharing Options

Allow Embedding

Allow Embedding

Allow Rating

Allow Ratings

Add

Figure 4.35 : Upload Video

Users can experience an easy uploading of videos directly from their computer but it is subject upon administrator approval.

Screen Shot 4:



Figure 4.36: View Video

Registered Users are allowed to view, share and rate video in Youtp, the Video Sharing Portal.

Screen Shot 5:



Figure 4.37: YOUTp Forum

YOUtp Video Sharing Portal allows user to share knowledge via forum. User can interact with other members by creating new topic and have discussion on it.

Screen Shot 6:



Figure 4.38: YOUtp Events Calendar

Users will be able to obtain check out what is happening at UTP.

Screen Shot 7:

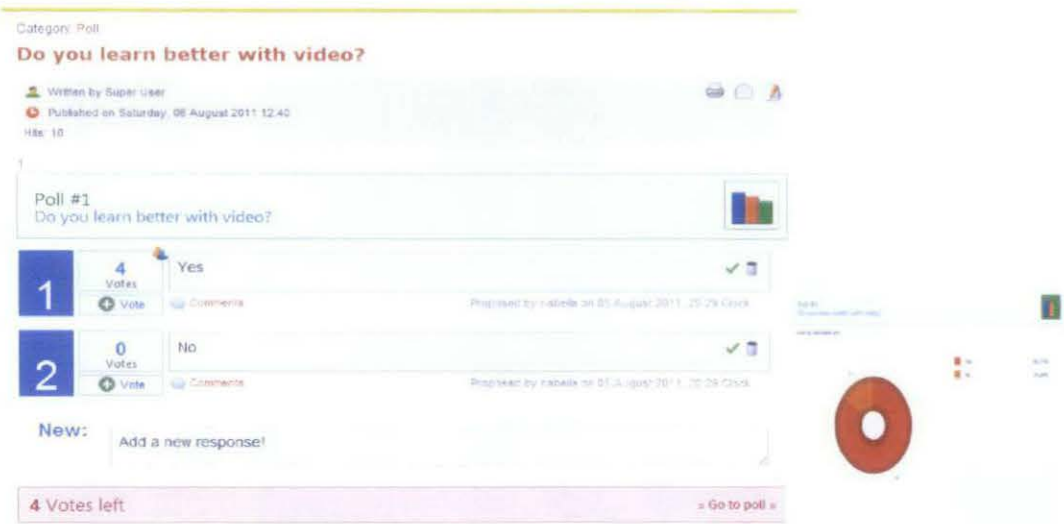


Figure 4.39: YOUtp Poll

Polls is one of the alternative for administrator to be updated on the latest interest and update from the users preferences.

Screen Shot 8:



Figure 4.40: Contact Us

For any inquiries, user will be able to contact administrator by getting the Administrator Contact Info from Contact Us feature.

Screen Shot 9:



Figure 4.41: Search and Categories

Search and Categories functions will provide user an easy and practical video retrieval.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 CONCLUSION

This project was initiated to provide a better way to manage knowledge in the form of video products at the most effective way. It is also one of the beneficial alternative in order to enhance the knowledge sharing culture at Universiti Teknologi Petronas and this is critical as currently there is no electronic platform to store, share, and retrieve university educational valued videos as a part of knowledge inbuilt and a platform which enables all members of university community to access. Thus, this project investigates how the role of video sharing portal as a knowledge sharing tool can make a difference to Universiti Teknologi Petronas as well as its community.

The implementation of video sharing portal named YOUtp as a platform and medium for the movement of knowledge will thus be seen as a core factor in the development of university's knowledge management. Moreover, it plays a role as a platform and medium for the movement of knowledge thus it can be seen as another useful alternative in order to enhance the knowledge sharing culture and improve the way knowledge be managed. Therefore, it is strongly believed that YOUtp Video Sharing Portal will be able to continually and effectively manage the knowledge and bring benefit to university community and its future generation.

5.2 RECOMMENDATION

It is highly recommended for YOUtp Video Sharing Portal to be implemented at Universiti Teknologi Petronas for the usage of its community. Furthermore, in order for YOUtp Video Sharing Portal to continually provide benefits to university community, it is a wise action to assign an eligible moderator to administrate and manage YOUtp, the Video Sharing Portal.

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APPENDICES

Appendix 1:

Questionnaire

This questionnaire is made for Universiti Teknologi Petronas Community. It will be used in designing a video sharing portal for the usage of Universiti Teknologi Petronas Community. The questions are targeted to gather understanding on the user's requirements and opinions on the implementation of the video sharing portal at Universiti Teknologi Petronas.

By answering, you will be helping the developer in creating a beneficial video sharing portal in order to enhance video sharing activity and knowledge sharing culture at Universiti Teknologi Petronas.

SECTION A: Respondents Profile

1. Gender:

- ☐ Male
- ☐ Female

2. Occupation:

- ☐ Student
- ☐ Management staff
- ☐ Academic Staff

3. Do you like to watch video?

- ☐ Yes
- ☐ No

4. What kind of video do you watch most?

- ☐ Sports
- ☐ Education
- ☐ Entertainment
- ☐ News and Politics

5. Which video sharing site that you mostly logged in?

- ☐ YouTube
- ☐ Metacafe
- ☐ BREAK
- ☐ Google Video

6. From which source do you get video?

- ☐ Family members
- ☐ Friends
- ☐ Video sharing site (e.g YouTube)
- ☐ Social Networking Site (e.g Facebook)

7. How frequently do you use video sharing site in a week?

- ☐ Never
- ☐ 1-3 times
- ☐ 4-7 times
- ☐ 8-10 times
- ☐ More than 10 times

SECTION B: Experience in using Video Sharing Site

8. Do you know how to use Video Sharing Site to gain knowledge?

- ☐ Yes
- ☐ No

9. Do you find video stored in a video sharing site a useful knowledge representation?

- ☐ Yes
- ☐ No

10. Do you find it is easy to search your preferred video via video sharing site?

- ☐ Yes
- ☐ No

11. What is the common problem you face in gaining knowledge via video sharing site?

- ☐ Difficult to use
- ☐ Not interactive
- ☐ Lack of functions
- ☐ Foreign language (Only available in English Language)

12. In your opinion, would the implementation of video sharing portal for the usage of University Teknologi Petronas useful in enhancing knowledge sharing culture at Universiti Teknologi Petronas?

- ☐ Yes
- ☐ No

**SECTION C: Features of a Video Sharing Portal for The Usage
of Universiti Teknologi Petronas**

13. Which of the following platform is more preferable for implementation of video sharing portal at Universiti Teknologi Petronas ?

- ☐ Internet
- ☐ Intranet

14. How do you prefer video to be categorized?

- ☐ By Department (e.g. Management & Humanities, Computer & Information Sciences)
- ☐ By Course (e.g. Business Information System, Information and Communication Technologies)
- ☐ By Event (e.g. Adjunct Lecture, Graduation Day, Art & Culture Performance)

15. For each of the following, please choose the number that corresponds to your opinion on what functions will be useful to make a video sharing portal more interactive?

Function	Not at all useful	Slightly useful	Useful	Very useful	Most useful
Forum	1	2	3	4	5
Chat Room	1	2	3	4	5
Video Post Comment	1	2	3	4	5
Embed video on other sites (e.g. Facebook, Blog)	1	2	3	4	5

16. For each of the following, please choose the number that corresponds to your opinion on what functions are required to include in a video sharing portal?

Function	Not at all useful	Slightly useful	Useful	Very useful	Most useful
Upload and retrieve video	1	2	3	4	5
Search box	1	2	3	4	5
Search by category	1	2	3	4	5
Create video playlist	1	2	3	4	5
Video post rating	1	2	3	4	5
Video screenshot preview	1	2	3	4	5
Help/Support (e.g. FAQs, Tutorial on how to use)	1	2	3	4	5

End of Survey. Thank you for your participation.

Appendix 2:

Gantt Chart

