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Date: May 2, 2016  
To: Dr. Edward Scott  
COM 421 Professor  
Illinois Institute of Technology  
From: Jinyang Li, student  
Subject: Recommendation report for development of the Chinese version youtube

Attached is the report for our study, “development of the Chinese version youtube: A Recommendation Report.” We completed the tasks described in our proposal of February 28, 2016: study website development and video website business strategies to establish an online video website to serve the people who wish to watch Chinese movies and TV.

To carry out these tasks, we performed secondary and primary research. We studied the literature on website use, distributed a questionnaire to IIT student community who own devices to explore movie sites, and interviewed IIT OTS staffs. Then, we collected and analyzed our data and wrote the report.

Our main findings are that the student who already use online movie websites are very painful to watch the chinese movies using youtube. We, too, think the Chinese movies on youtube are unclear and most of them have low quality. Although the best site for Chinese movies streaming is youtube, that site’s connection speed are too slow for whom located outside of China. Because reports on the technical characteristics of computer products are notoriously reliable, we can be sure whether the

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many general-purpose website development can meet our standards for establishing the chinese version of youtube.

We appreciate the trust and patience you have shown in recent projects. If you have any questions or comments, please contact Jinyang Li at [jli134@hawk.iit.edu](mailto:jli134@hawk.iit.edu) or 3127929668.

**Development of Chinese version youtube:  
A Recommendation Report**

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April 17, 2016



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## **Abstract**

“Development of Chinese version youtube:

A Recommendation Report”

Prepared by: Jinyang Li, Student of technical communication

On February 8, 2016, Dr. Edward approved our proposal to determine the best approach to making people satisfied by establishing website that served high user experience website. Specifically, Dr. Edward asked that we develop a plan to perform five takes:

- determine what is needed to establish the website including hardware and software.
- determine which technology is required to establish the website.
- determine the user behavior when they suffer for long wait buffering and why the Internet download speed from China is too slow.
- establish the website business strategies.
- establish the website and user agreement.

Currently, there're a lot of online video websites on Internet. By default, people come to United States usually choose youtube.com as their primary video website. However, there are only a few Chinese videos in youtube, a lot of attractive and interesting videos can only accessible via [youku.com](http://youku.com), whose server was located in China and had no american content delivery network (CDN). This situation is not ideal because it is painful to wait half an hour average time to make a video to buffer complete. Also, some big videos actually can't buffer successful due to low Internet speed.

Therefor, Jinyang wanted to research why the Internet speed from China to United States is weird low. Specifically, Jinyang wanted us to develop a website that either transfer the video content via United States based server or store the video content on the United States server. Also, Dr. Edward asked that we develop a plan to determine what is needed to establish the website including hardware and software, determine which technology is required to establish the website, determine the user behavior when they suffer for long wait buffering and then establish the website and its business rules.

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## **Executive Summary**

To determine the best approach to making people satisfied by establishing website that served high user experience website, Dr Edward Scott, professor of COM 421 in IIT, asked us to study the development of Chinese version of Youtube, research basic web and user experience understanding of students across IIT, determine the software and hardware requirement, as well as business logics and presenting our findings and recommendations.

Currently, there're a lot of online video websites on Internet. By default, people come to United States usually choose youtube.com as their primary video website. However, there are only a few Chinese videos in youtube, a lot of attractive and interesting videos can only accessible via [youku.com](http://youku.com), whose server was located in China and had no american content delivery network (CDN). This situation is not ideal because it is painful to wait half an hour average time to make a video to buffer complete. Also, some big videos actually can't buffer successful due to low Internet speed.

To carry out these tasks, we performed secondary and primary research. We studied the literature on website use, distributed a questionnaire to IIT student community who own devices to explorer movie sites, and interviewed IIT OTS staffs. Then, we collected and analyzed our data and wrote the report.

Our main findings are that the student who already use online movie websites are very painful to watch the chinese movies using youtube. We, too, think the Chinese movies on youtube are unclear and most of them have low quality. Although the best site for Chinese movies streaming is youtube, that site's connection speed are too slow for whom located outside of China. Because reports on the technical characteristics of computer products are notoriously reliable, we can be sure whether the

many general-purpose website development can meet our standards for establishing the chinese version of youtube.

We recommend one of two courses of action: Using an open source project finding in github as our project source code, based on this source code, we would do specific improvements and perform required project testing and management. We believe reuse of open source project is the better approach for our needs because the develop period limit and open source project has many developers to improve the core stability.



## **Introduction**

To determine the best approach to making people satisfied by establishing website that served high user experience website, Dr Edward Scott, professor of COM 421 in IIT, asked us to study the development of Chinese version of Youtube, research basic web and user experience understanding of students across IIT, determine the software and hardware requirement, as well as business logics and presenting our findings and recommendations.

Currently, there're a lot of online video websites on Internet. By default, people come to United States usually choose youtube.com as their primary video website. However, there are only a few Chinese videos in youtube, a lot of attractive and interesting videos can only accessible via youku.com, whose server was located in China and had no american content delivery network (CDN). This situation is not ideal because it is painful to wait half an hour average time to make a video to buffer complete. Also, some big videos actually can't buffer successful due to low Internet speed.

Therefore, Dr. Edward wanted us to determine the best approach to making people satisfied by establishing website that served high user experience website. Specifically, Dr. Edward asked that we develop a plan to perform five takes:

- determine what is needed to establish the website including hardware and software.
- determine which technology is required to establish the website.
- determine the user behavior when they suffer for long wait buffering and why the Internet download speed from China is too slow.
- establish the website business strategies.
- establish the website and user agreement.

We recommend, first, that we reuse an open source project as our framework. Then we would do specific improvements and modifications to our own project. Second, we would choose a private server as our web and streaming server. This option would yield data that would help us decide how to proceed.

In the following sections, we provide additional details about our research methods, the results we obtained, the conclusions we drew from those results, and our recommendation.

## Research Methods

We began our research by interviewing Dr. Scott, who emphasized that we need to maintain our focus on our priorities— user experience and accessibility to the users — and not let technical questions such as network speed because of the location of servers affect the accessibility of users.

Early on in our research, we discovered an article that corroborated what were to focus on .

To perform analysis requested by Dr Scott, we broke the project into six task,

Task 1. Acquire a basic understanding of website user experience by student across the IIT.

Task 2. Determine the hardware and software needed in project.

Task 3. Determine the FrontEnd basic structure.

Task 4. Determine the backend basic structure.

Task 5. Determine the Business logics.

Task 6. Analyze our data and prepare this recommendation report and informational report.

In the following discussion of how we performed each task, we explain the reasoning that guided our research.

### ***Task 1. Acquire a basic understanding of website user experience by student across the IIT.***

We have already begun our research by take surveys online via social media wechat, which is a widely used mobile app in China. Almost everyone who uses smartphone in China has one wechat account. According to the data, almost every chinese student in U.S suffer long wait time when they're watching online media. We perform survey and collect data using google forms. (survey)

We also discovered a website that corroborated what we need but site server is in Europe. Two keys to doing the research were to focus on user experience and content sufficiency. Most of the research we studied falls into one of three categories:

- General user experience regarding website, what the user wants in social media.
- technical specifications of web development in development magazines.
- business rules of web in economy magazines.



As we expected, the information we acquired is a mix of user opinions, benchmark-test results, and marketing. We would rely most heavily on case studies from website administrators and users and technical specialists in web development, we are hesitant to rely on claims about product performance.

### ***Task 2. Determine the hardware and software needed in project.***

We would search internet to conduct what is needed to let website run including hardware and software. The result would show web development and which would match our budget.

### ***Task 3. Determine the FrontEnd basic structure.***

Our research has already revealed that users love high user experience website and the beautiful website front end would make them relax and happy.

***Task 4. Determine the backend basic structure.***

Our research has also points out that the buffering speed and page responsive speed are important regarding user experience. To approach this, a good backend basic structure is needed to determine.

***Task 5. Determine the Business logics.***

To continued serve users, income is required to maintain hardware and software.

We would rely on business articles and do research to create business logics to create income.

***Task 6. Analyze our data and prepare this recommendation report and informational report.***

We would draft our recommendation report and informational report, after finished we would upload it to Dr. Edward's mailbox to make it convenient for the professor help us revise it. We would then in corporate professor's suggestions and present a final draft sent to Dr. Edward's mailbox.

## **Results**

Here is our results based on the research.

***Task 1. Acquire a basic understanding of website user experience by student across the IIT.***

Table 1 survey results regarding which part of website are most important in user experience

Utility	12%
Content	40%
Usability	33%
Technical	5%
Design	10%

As table shows, most of people thinks content is very important to a website, which means we need tons of movie source and make it online. Also, a smooth UI is important, this result can be conduct by design part and usability part of survey results.

In terms of design, user experience is just as important as visual identity. Seriously. It doesn't matter what your site or app looks like if people don't know how to interact with it. And moreover, they need to enjoy that interaction.

While UX is important for any digital product, it is even more important for certain types of digital products: complex sites or applications, retail or online sales, start-up sites and businesses, small-budget projects and projects or sites that are expected to last a long time.

UX is key for complex sites because users must be able to easily navigate the site and understand how to use it. Neglecting UX can result in a sloppy site that people will not come back to. Developing an interaction-rich experience will drive users back to a site.

One of the most complex types of sites can be those that include retail or online sales. Not only does the site have to be well-organized, it also has to have clear and easy to use signals for how to make a secure purchase. This is also true of sites that are expected to be around for extended periods of time, such as retail sites. Consider Amazon.com, it has worked using the same basic UX for years.

User experience is key for small and start-up businesses as well because the site is their first impression to users. This debut matters when it comes to directing future traffic and business to your product.

This same concept applies to companies with small budgets. User experience is important because it can create the momentum that propels the business forward. Remember, users decide in just a few seconds whether your site or app is worth their time. That's the only opportunity you get to reel someone in.(Carrie)

***Task 2. Determine the hardware and software needed in project.***

One of the most important tools developers need a computer. A computer to be used for web design should have a large hard disk and Random Access Memory, high processing speed and large storage capacity to be able to process the large video files. The next thing developers need is a server that user will use to host the website. Two servers are needed, the hardware and software servers which are important for web hosting. The relevant software for instance Dreamweaver and Microsoft frontpage need to be available before any progress can be made in construction of the site.

The internet world is full of uncertainties due to external threats. In the blink of an eye, developers can lose all their data. It is important to have a good antivirus or software that prevents the website from external threats. At the same time, developers will need to backup their website from time to time. This is because the security software could be overwhelmed by the threats making the entire site crash. Backing up the website can be done manually or automatically through the email.

Developers can opt to backup their site through daily email. This way, developers will always be able to restore the site if anything happens to their site.

Technology is improving rapidly and websites can be accessed through other devices for example smart phones, PDAs and other mobile devices. This trend is being embraced by many people and it would be important for developers to consider optimizing their site such that it can be accessed

using these devices. They can also have mobile web design and editing software to edit and modify the website from any location. The importance of this cannot be overemphasized especially because they may need to edit their site from another place for instance when they travel.

Depending on the content they will put in the website, developers may also need databases.

Dynamic websites are examples of sites that require the use of database. Creating a database may require use of certain software to achieve their objective. It is important to know the various software and what functions they have on the database. With that knowledge, developers will be able to choose the right software for what they want to do. (keisha)

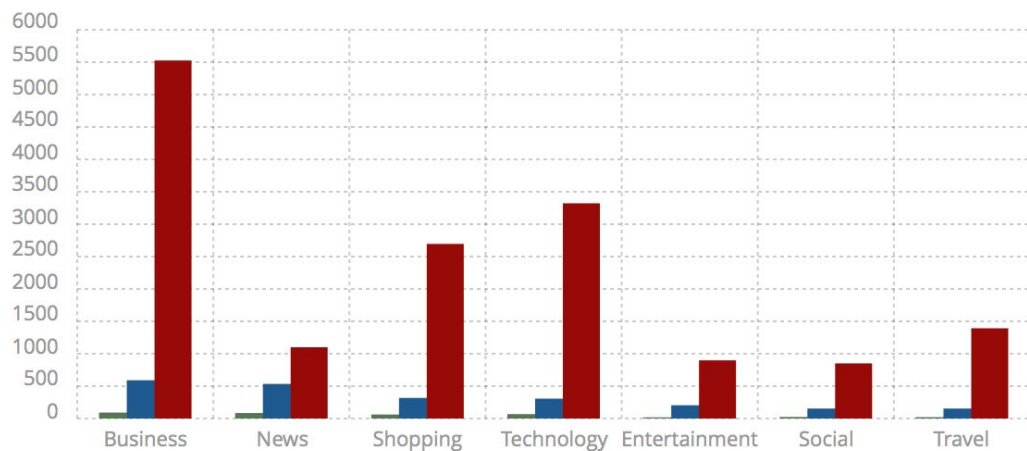
### ***Task 3. Determine the FrontEnd basic structure.***

According to the survey result, a beautiful UI and its usability is important. So we choose to using Bootstrap as our frontend basic structure.

Why choose bootstrap is bunch of good websites using bootstrap. (Bootstrap)



### Twitter Bootstrap Popular Website Verticals



#### Legend

Top 10,000 Sites

Top 100,000 Sites

Top 1 Million Sites

This chart shows the amount of websites within the top 10k, 100k, and 1 million sites groups that are categorized as being in the specific vertical.

Bootstrap, originally named Twitter Blueprint, was developed by Mark Otto and Jacob Thornton at Twitter as a framework to encourage consistency across internal tools. Before Bootstrap, various libraries were used for interface development, which led to inconsistencies and a high maintenance burden.

#### ***Task 4. Determine the backend basic structure.***

Since we need database to store relative data, like movie names, the location it stores. So we need a driver to communicate with database, as w3cshool indicated, the good database is mysql.

(w3cshool: SQL) Also, as they mentioned, the best backend languages for mysql is PHP (w3cshool: PHP). So we choose PHP plus Mysql as our backend structure. PHP is the most popular scripting language for web development. It is free, open source and server-side (the code is executed on the server). MySQL is a Relational Database Management System (RDBMS) that uses Structured Query Language (SQL). It is also free and open source, which matches our budget.



### ***Task 5. Determine the Business logics.***

With the development of online video websites, a growing number of Chinese Internet users watch content they need via online video site. In future, Chinese online video website is various fields of development. My profit model will be two section. One is develop active users to become our paid membership. Other is through our large number of users to cooperation with some ads. We can use the big-data technology to analyze large customers to achieve accurate advertising. (Andy)

## **Conclusions**

In this section, we present our conclusion based on our research related of the five questions we were asked to answer.

### ***User experience***

While UX is important for any digital product, it is even more important for certain types of digital products: complex sites or applications, retail or online sales, start-up sites and businesses, small-budget projects and projects or sites that are expected to last a long time, such as our research target, a Chinese version of Youtube.

### ***Hardware and software needed***

For hardware part, computer to design and program the website and devices to run the websites are needed. For software part, database is needed.

### ***Front-end basic structure***

We choose Bootstrap as our front-end development tools because our survey result show that a clear, easy and nice looking UI is needed. Bootstrap has been wide used for a lot of major websites. It is easy to implement with great functionalities.

### ***Back-end basic structure***

Mysql is chose as our database development tool. Since PHP works perfectly with mysql, we choose PHP plus Mysql as our backend structure. And both of them are free and open source, this exactly fits our requirement and budget.

### ***Business logics***

Our logics is to using ads and membership to create income. Ads are commonly used revenue method and membership is the newest way to create income across the Internet nowadys.

## **Recommendation**

We recommend that team pursue one of two options:

### ***Option 1: Reuse of open source project***

We prefer this option.

Although a web development is somehow time costing, an open source project sometimes could use directly. After some small modifications, like modify title, category, upload own slider in pages, upload movies to server, the site could open to public immediately. This would solve all the problems indicated in previous proposal. Also, almost every open source web application project are using PHP and Mysql, which are also meets our results.

### ***Option 2: Complete develop from backend to frontend***

Since this would cost too much time, we do not prefer this option.

This option could complete as follows:

- 1 Design database and code database scripts.
- 2 Design and code PHP backend which is interacted with database.
- 3 Design and code Frontend files and insert them to PHP.

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