

# **ONLINE THESIS MANAGEMENT SYSTEM**

Submitted by

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**ONLINE THESIS MANAGEMENT SYSTEM**

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## **ABSTRACT**

For most university Ph.D candidates, the dissertation is very important to complete their Ph.D program and become a doctor. The process of writing a thesis involves many iterations of taking feedbacks from different professors and making revisions until the thesis is ready to submit for university department. During this process, the student needs to submit a hardcopy of his/her thesis to the professors at their office then the professors will review and give feedback to the student.

Online Thesis Management System provides a platform for the professors and students to manage the thesis writing process. In the scope of this project, the system focuses on making the reviewing process more convenient. By having the students uploaded their thesis to the system, the Professors can easily see and give feedbacks online using convenient editing tools. The system also provides the information on formatting, copyright, references and other requirements by the university department and performs automated checks on these requirements. After the review is done, the system will automatically notify the student so that they can retrieve the feedback from the professor make correction.

Online Thesis Management System will make the review process much easier for both the professors and the students and help saving a lot of time comparing to the old paperwork process

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# CHAPTER 1 - INTRODUCTION

## 1.1. Overview on Ph.D. Degree Requirement

In order to obtain doctorate, there are some certain requirements that students need to fulfill. Some general requirements for a PhD program can be as follow.

### **Coursework element**

The PhD program includes an element of coursework in the same or related field to provide a doctoral-level foundation and prepare the students for research.

### **Qualifying examination**

After finishing their course work, students are required to take a qualifying examination, usually at the end of the second year. The qualifying examination comprises a comprehensive examination and an oral defence of the Ph.D. thesis proposal. The comprehensive examination tests the general competence of the candidate in his/her discipline. The proposal is an original idea for investigation put forth by the student, after an extensive study of the topic. The student is expected to detail the research question and also provide the study design. The oral defence ensures that the candidate is prepared to embark on his/her thesis research.

### **The dissertation**

Doctoral student is required to complete the dissertation in the final year of his/her Ph.D. program. The dissertation will be evaluated by internal and external examiners. Following this examination, there is an oral defence of the thesis before final submission. The Ph.D. is awarded when the student meets all the requirements of the program and passes the oral defence thesis examination.<sup>1 2 3</sup>

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<sup>1</sup> NUS Engineering Bulletin, Ph.D degree requirement (2013). Retrieved from [http://www.nus.edu.sg/registrar/nusbuletin/FoE/GD/gradedu.html#5\\_1\\_1](http://www.nus.edu.sg/registrar/nusbuletin/FoE/GD/gradedu.html#5_1_1)

The Online Thesis Management System will focus specifically on the last components of the Ph.D. degree requirement – the dissertation. It is a long process from the time the student begins his/her research work on the dissertation until the student passes the oral defence. The following are the highlights of the steps during the dissertation.

### **Thesis Reviewing**

The student starts writing the first draft of the thesis and submits a hardcopy to the professors. The number of professors that the student receives supervision from can vary depending on department or universities. The professor will review this draft independently. The feedbacks from the professors can be in different forms such as email summary of what the professor think, a meeting, handwritten comments on the hardcopy that the student submitted.

After receiving feedbacks from professors, the student then revises the thesis accordingly and submits the new version of the draft to the supervisors to be reviewed again. This process will iterate a few times before the thesis is approved by all the supervisors.

### **Thesis Submission**

After being approved by the supervisors, students have to submit their theses for examination before the deadline assigned by the department. The procedure for thesis submission for examination involves some paperwork, submission of the copies of the thesis following the requirement set forth by the universities and departments.

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<sup>2</sup> NUS Business Bulletin, Ph.D degree requirement (2013). Retrieved from [http://www.nus.edu.sg/registrar/nusbulletin/Biz/GD/gradedu.html#4\\_1\\_1](http://www.nus.edu.sg/registrar/nusbulletin/Biz/GD/gradedu.html#4_1_1)

<sup>3</sup> NUS Science Bulletin, Ph.D degree requirement (2013). Retrieved from [http://www.nus.edu.sg/registrar/nusbulletin/FoS/GD/gradedu.html#4\\_2](http://www.nus.edu.sg/registrar/nusbulletin/FoS/GD/gradedu.html#4_2)

## **Thesis Examination**

The thesis examiners are usually nominated by the main supervisors of the Ph.D. student. The process of nomination begins one month before the thesis is expected to be submitted for examination in order to provide sufficient time for the approval of the proposed examiners. Upon the submission, the thesis will be sent to the internal and external examiners by the department and the registrar office. The examiners are given seven weeks from the date thesis is sent to them to complete the examination and submit the evaluation report.

Doctoral students are required to attend an oral examination after the theses have been examined.

After all the examiners' reports are received, if the student passes the examination, he/she will be awarded the degree.<sup>4</sup>

The degree requirement to obtain doctorate may vary among different universities or even different departments in a university but the general workflow is still very similar.

### **1.2. Related work on the Online Thesis Management System**

There are a few projects or ideas targeting similar topics.

#### **Academic Thesis Management System – blankdots.com<sup>5</sup>**

This was an idea posted on blankdots.com in January 2013.

The purpose of Academic Thesis Management System is to manage Bachelor and Master and maybe even Ph.D. thesis inside a university, faculty and department.

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<sup>4</sup> NUS – Thesis Submission and Examination (2013). Retrieved from <http://www.nus.edu.sg/registrar/event/gd-thesisexam.html>

<sup>5</sup> Ideas Source, blankdot.com (2013). Retrieved from <http://ideasource.blankdots.com/2013/01/academic-thesis-management-system/>



General features include: a calendar view until the thesis defence, search through past theses with the same area of research, records of all the students and professors belonging to that institution, verifying the final submission respect some certain standards of the university, automatically notify students on assignment deadline via email.

### **Thesis Management System – jcechace, Github<sup>6</sup>**

Thesis Management System is a system to manage thesis. It provides very basic features that such a system should have such as creating a topic that a student can apply for, approve the thesis application, comment on the thesis or the application, grading. This is an ongoing project which was last updated in March 2013.

### **Sophisticated LaTeX Review Template – Alexander Willner<sup>7</sup>**

This project aims to provide a template for a Ph.D. student to review a paper or another thesis. The system is based on the checklist for systematic peer review of scientific literature introduced by Matthias Rupp (2008)<sup>8</sup>. However, this review checklist is normally used for examiner in the examination process, not the review between the supervisors and students during the thesis writing and reviewing as described above.

To sum up, although the dissertation is one of the most important components to satisfy the degree requirements for doctorate, it is surprising that there are not any

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<sup>6</sup> jcechace, GitHub (2013). Retrieved from <https://github.com/jcechace/Thesis-management-system>

<sup>7</sup> Alexander Willner (2013), Sophisticated LaTeX Review Template, GitHub. <https://github.com/Thesis/Review>

<sup>8</sup> Matthias Rupp (2008), Review Checklist. Retrieved from [http://www.mrupp.info/Data/2008review\\_checklist.pdf](http://www.mrupp.info/Data/2008review_checklist.pdf)

online system that is design to provide information, interaction for the students and the professors or to keep track of the dissertation progress in a efficient, effective and user-friendly way. The following discussion will explain the focused problems and the need for such system.

### **1.3. Focus of the Final Year Project**

The ultimate goal of Online Thesis Management System is to provide an interface to manage the whole dissertation component of the Ph.D. program from the time the student starts doing research work until his oral defence. However, in the scope of this Final Year Project, it is necessary to narrow down the problem. Therefore, we will only focus on the very first component of the dissertation process described above – Thesis Reviewing.

In this process, the student needs to keep revising his/her thesis according to the feedback received by the supervisors until the thesis is approved. Currently, most universities still follow the traditional way of reviewing thesis. That is having the student submitted the hardcopy of the thesis in the supervisors' office so that they can read and give feedback through email or right on that hardcopy. It is very inefficient for the students, especially when they have a committee of three to five professors which is common for science students at major universities in the world. A large amount of time is taken just for the student to travel back and forth the professors' offices to submit the thesis or collect feedbacks. This problem becomes worse when the student may have supervisors from different department. Another problem is that professors are usually busy with their research, teaching, or supervise other students on their projects. There are possibilities that the supervisor may forget about the thesis or lost it in the mist of other papers. A

slightly better way for this reviewing process is to have the student send the thesis through email. This may save the student the time travel back and forth the offices but still it does not guarantee that the professors will not miss that email by accident. And the student also needs to send the email to remind the supervisors to review his/her paper if he/she does not hear from them for a time.

Online Thesis Management System will offer a solution for all of these problems. The system will guarantee efficient interaction between students and their supervisors. The students will have their theses review without costing time and effort of physically submit the theses and will not have to worry about sending reminder to the professor. At the same time, the system will help organize the theses in a way that is easier for the professors to review and give comments. The professor can also access to the theses easily at home or in the office.

To sum up, this project will only focus on the Thesis Reviewing component because it is not only the very important component of the dissertation process but also where the problems can easily be seen by the users, in this case the professors and the students. As a crucial component of a bigger system, this project will be focusing on solving these problems and bringing benefits to its users. However, the system is also designed to accommodate different preferences of the professors, even for those who prefer the old way of hardcopy submission.

#### **1.4. General features**

In order to provide value propositions described in section 3 above, the Online Thesis Management System is designed to serve three users: the students, the professors and the thesis manager. The thesis manager is also a university staff

who manages the thesis process in the faculty department or registrar office. The general features of the system are as follow:

- Submitting or downloading documents in PDF format
- Automated Formatting check (formatting requirement can be customized by the thesis manager)
- Automated Notification System to facility the interaction between the students and the professors (reminder, deadline, hardcopy submission)
- All version of the thesis and activities of all users are recorded within the system to provide redundancy
- Simple editor to allow professors to edit the document on the cloud
- Reference detection system provide easy to navigate reference list
- Task Timeline to view the deadline indicated by the professors or the thesis manager
- Well-organized thesis repository for professors and thesis manager

### **1.5. General workflow for users**

#### **From a student perspective**

When a student log in to the system, he/she will be able to view all the information on the thesis such as the formatting guideline, deadline for submission, examination procedure, professors and their info. In the reviewing process, the student will create a PDF file of the first draft of his/her thesis and upload to the system. After the file is uploaded, the system will record the file and run a check to see if the formatting of the document meets the standards required by the department. If there is any formatting error, the system will display a warning to the student. He/she will choose either to fix it or ignore it for the time

being as it is in very early stage of the thesis. In addition to the uploading, the student also needs to upload the details about his/her submission separately such as project title, abstract, reference content, reference links to enable reference detection features of the system to help the professor to navigate to the reference easily. This information may only need to upload in the first submission. Now the document is already uploaded to the system, the student will need to notify the professors that the thesis is ready for review. The student opens the notification system, it will tell them the professor want to receive the hardcopy and if notification feature is enable on his side or not. If the professor prefer to have a hardcopy and does not want to use the system, we do not want to bother them. Then, the student sets the parameter for the notification: what are the time he wants the system to automatically remind the professors, if he wants to receive a copy of the notification, if he wants a read receipt. After the setting is done, the student will click “Notify Professor” to start the notification system. When the student receives the notification from professors that the commented file is ready, he/she can log in to view the file. The student can also view the deadline for the next edited files if the professor indicates that. The notification will automatically set with some default values (for example, 2 days before the deadline). Student can override this notification if he/she wants. This process will repeat a few times until the thesis is approved by the professors. After that, the student can click a button to send it to the department for submission.

### **From a professor perspective**

The goal of the design is to make the system as easy to use as possible for the professor. For some professors who prefer hardcopy submission to electronic

submission, they can easily indicate that in the notification system and the Online Thesis Management System will remind the student about that without further bothering the professors. For the professors who use the system, they will receive the notification via email that the thesis is uploaded and ready for reviewing. The professor will log in to the system to see the file. He can choose to comment the file right on the cloud, download the PDF to his device or print out the hardcopy and write on it. Basically, the professors are free to choose any form of giving feedbacks they want and use the notification system to tell the students. After the commenting is done, the professor will open the notification system, set the deadline if necessary, he/she can also indicate if the student needs to come to the office to collect the printed commented hardcopy in case the professor chose to download and print out. After the setting is done, the professor click “Notify Student” to start the notification system.

#### **From a thesis manager perspective**

When a thesis managers log in, they will find a well-organized directory of the thesis that they have to manage. They are allow to change the formatting of the thesis which will affect the formatting guideline displayed to the student and the formatting check features of the system. When theses are finalized, thesis managers will receive notification via email to put those these to the examination process.

#### **1.6. Summary**

To sum up, in this chapter, we have discussed about the overview process of the Ph.D. program as well as the details about the dissertation requirements. By

exploring the existing ideas and projects related to the topic, we found out that there are still very few projects in this area. Going further into the problem of the current process of dissertation review, submission and examination, we found a need of an online system that can provide better interaction for the users. In the scope of this project, we will only focus on the thesis reviewing process between the students and the supervisors.

In Chapter II, we will discuss more about the technical part of the system, how it is design and how the users use it. In Chapter III, we will discuss about what we will do in the next semester.

## CHAPTER 2 - TECHNICAL SECTION

### 2.1. Use case diagram

There are three users for Online Thesis Management System: the students, the professors and the thesis managers. Figure 2.1 describes how these three users interact with the system.

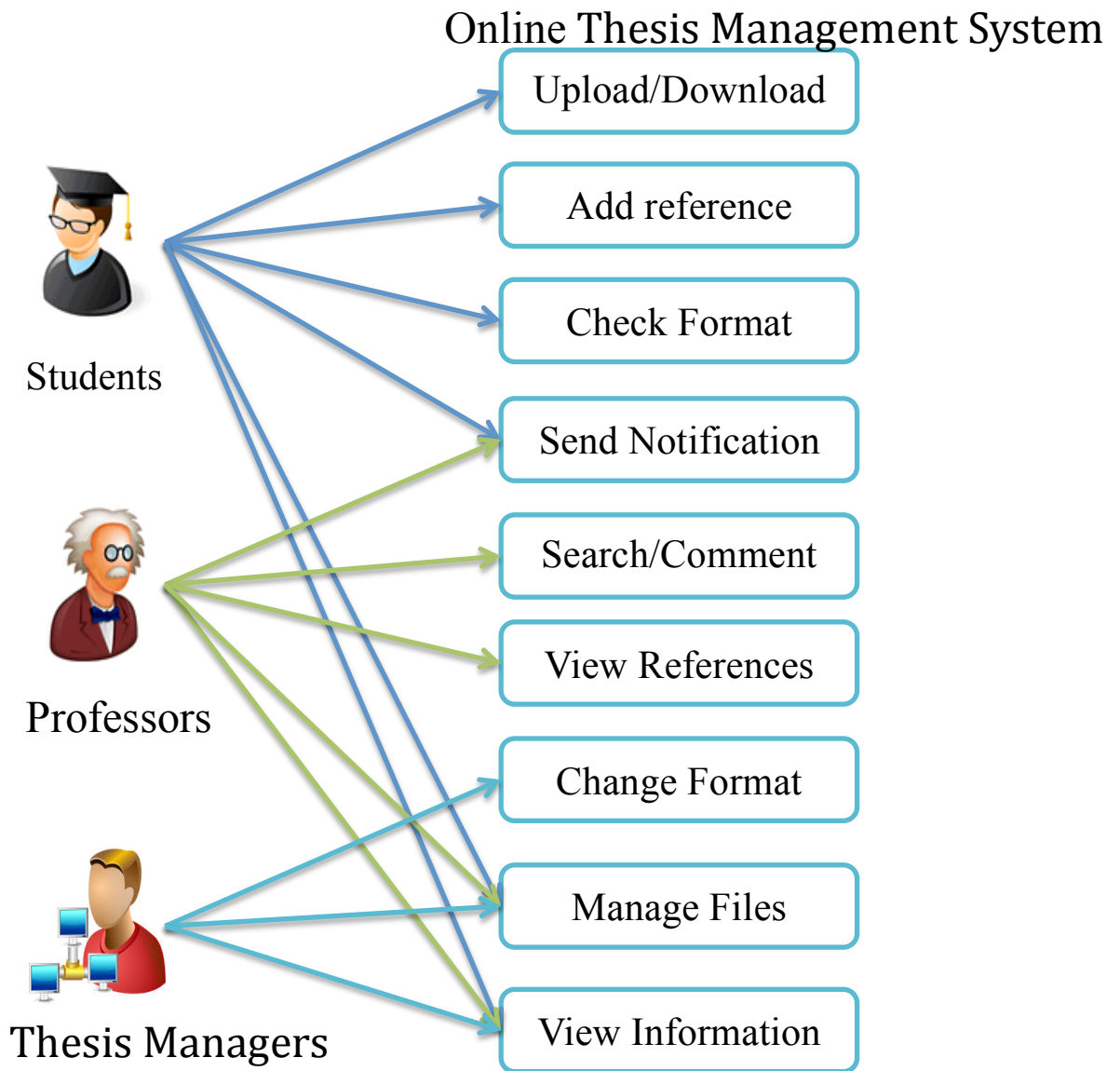


Figure 2.1. Online Thesis Management System Use Case Diagram



## 2.2. System components

The system will consist of eight important components: Login, User Interface, File Management System, Reference Detection System, Formatting Check, Editor, Notification System and Database.

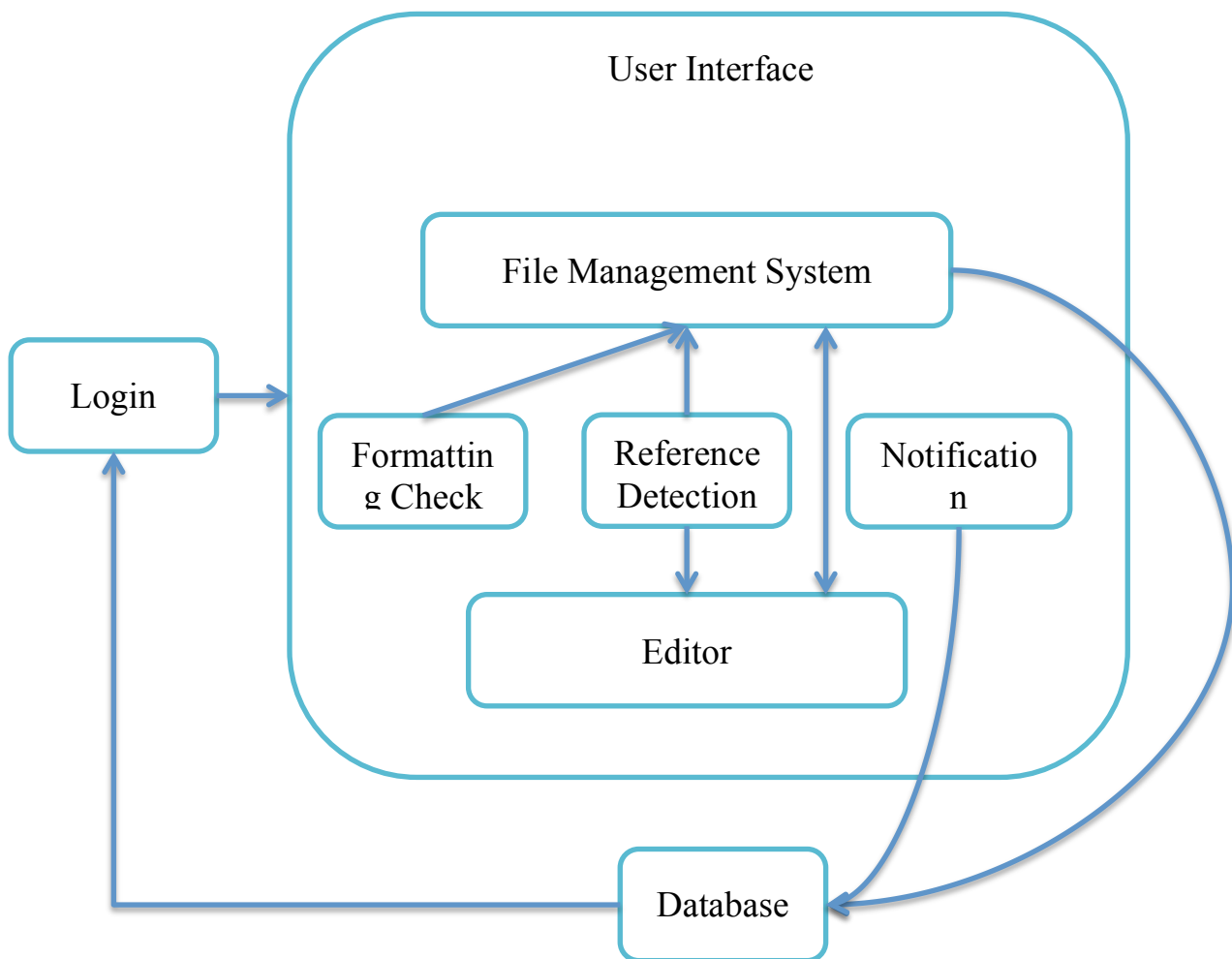


Figure 2.2. Components of the System

### Login

This component provides a secure login for all users. When the system is set up, all the necessary information of the users such as university student account username and password, email address will be created by the administrators or thesis managers. It is required that students and professors need their university

email address to register to ensure the security. All confidential information which belongs to a university is ensured to be kept secured on the system.

Different users will be assigned different privileges. The students will only allow full privileges with their own files. The professors will have the privileges to access the theses of the students under their supervision and the thesis managers will have the privileges to manage all the finalized theses that are sent to them.

All the information transmitted between the system and the users are encrypted using SSL protocol to ensure the security. When a user logs in, a session is created to ensure good user experience together with security. All the activity after login will be logged so that the administrator can trace back in case errors occur.

### **User Interface**

After the users log in with their username and password, they are redirected to the User Interface. This component plays the major role to provide the good interaction between the users and the system. This is also where all other component are put together in a way that are easy to navigate to. The users can also edit their personal information here such as display name, profile pictures, biography to allow other people to search for them. There will be a timeline where all the important deadlines is bookmark so that the users can easily keep track of it. The deadlines can be: submission deadline indicate by the university, the deadline for the revise version to be sent to the professor or some reminders. The User Interface is required to be simple, clean, and easy to navigate to other features of the system.

### **File Management System**

This component allows the users to download and upload the file. Currently, the system will only allow the users to use PDF file format. This format is the most popular file format for official use. Every operating system, even mobile operating system, has the reader that supports reading PDF file. It is also supported by most commonly used browsers in the world. This requirement prevent the incompatibility between the user's system and the file format the students uploaded.

The File Management System will keep track of all the versions the students uploaded to provide redundancy so that the students and professors can easily retrieve the older version if necessary. The commented files sent back from the professors are kept in different folders to easily distinguish between them.

### **Reference Detection System**

When the student first uploads the thesis on the system, he/she is required to put more details about the thesis so that the system can index the information. These details are project title, abstract which can be made public if necessary. In addition, the student needs to upload the reference content that he/she use in the thesis. This step can be important to make it much easier for the professor to navigate to and check those references. The student is recommended to upload the content that they use in the references if possible. If it is difficult to do so, he/she can upload the links to the reference instead. The Reference Detection System will try to identify these references in the file so that when the professors view the thesis using the Editor, they will easily navigate to these references by a popup window or clickable link.

### **Editor**

The system will make use of the available PDF editor library that support basic features like comment, highlight, undo/redo, search. This editor will be integrating with the Reference Detection System described above to make it easier for the professor to navigate to the reference.

### **Formatting Check**

This component will provide the automated check on the file the student uploaded against the formatting requirement set forth by the university. These requirement can be customize by the thesis manager as the requirements may vary depending on the universities, faculties or departments. The feasibility of the formatting check feature depends heavily on the differences in formatting requirements from different university. Appendix 1 shows some of the fields that are usually seen as a requirement from the university.

### **Notification System**

This is a very important component because it is provide the link or interaction between the professors and the students. It will automatically send an email notification to the professors and the students when some conditions are met.

It will send the notification to the professors when:

- The student clicks “Notify Professor” when he/she uploads the file.
- The professor does not touch the file after a period of time

- After a specified date by the student if he/she does not receive the commented files (either notify the students and let them do the email directly or through automated notification system)

It will send the notification to the students when:

- The professor finishes commenting and clicks “Notify Student”
- The Professor indicates some “advance” requirement such as: hardcopy submission, extra files, etc.
- The professor does not touch his/her file
- The professor has read the file (read receipt)
- Deadline for the edited version comes near

As described in the workflow above (section 1.5), the deadline reminder can be crucial for the students and professors. All notifications are implemented by automatically send emails. However, at the same time, the system should respect the privacy of the users. Therefore, the recipient can override all the notification preferences if necessary.

## **Database**

The role of the Database is to record all information of the users, theses, all activities happen on the system. The database will store:

- All users information and credential to log in and display personal information
- Thesis related information such as title, abstract, references, version, deadline, etc.
- Users’ preferences for the notification system
- All activities performed by the users

### 2.3. Technical requirements

In order to ensure the system work well and deliver the values to the users, the design of the system must meet some technical requirements.

Firstly, the system must be reliable. The server must be up all the time and functional as described to serve its users anytime. Students and professors can download or upload the file fast and easily without any error, even for big files. System must be frequently backup to prevent lost of data in case of errors occur.

Secondly, the user interface must simple, clean and easy to navigate. The students should be able to log in and see all the deadline, notification easily or navigate to important feature such as notification system or file uploading with one or two clicks. For the professors, it is even more important for the system to be clean and easy to use because if the professors find it less convenient than the hardcopy submission that they are used to, they will refuse to use the system and ask the student to submit hardcopy instead. We will not be able to be valuable to the users if that is the case.

Thirdly, the system must be secure. The information flowing between the professors and students on their research can be confidential. It is undesirable to let the information leak outside. Therefore, we need to make sure that the users that log in to the system are who they are supposed to be and all the packets transmitted between the clients and server must be encrypted.

Finally, as this project is only a component of a bigger project, the design should be open for more features and customization. There are many promising features that can make the system more attractive to the users such as a mobile version that

enable to professors to view and edit the theses on their mobile devices like ipad, android tablets.

#### **2.4. System Specification for the Prototype**

In order to create a prototype of a system for this project, we have created a local server using Rails. The server is running on VMWare Fusion with the following specification:

- Operating System: Ubuntu 12.10
- Hard disk: 20GB
- Ram: 1GB

The database will be MySQL 5.6.10. Main programming languages used to program the system will be Ruby.

To sum up, this chapter has discussed the top-level design of the system as well as the details of the components. The next chapter will discuss about the important tasks, challenges for the project on the second semester.

## CHAPTER 3 - PLANNING FOR SEMESTER 2

### 3.1. Challenges in designing the system

The biggest challenge of the system lies in the Editor component. As it is playing the major role to make the system more appealing to the professors, it needs to be well designed. While there are a lot of PDF reader library for Ruby on Rails platform such as Yob Reader<sup>9</sup>, it still requires a lot of customization based on the library used to make a good reader for the system. Furthermore, other components such as Reference Detection and Formatting Check require reading PDF files as well. I am planning on building my own library based on the foundation of the Yob reader to provide all the necessary features for the project.

Another concern is that there will be a deployment step to migrate the system from my computer to a remote server so that we can run tests on the actual running system. There are two main choices, using NUS server or register a free Amazon server.

NUS server is free and powerful, it is very easy for me to do programming work and running test right on the server. However, NUS server put a lot of constraints on what I can use for the system. It is certain that I will install some third parties library that NUS has not supported and I will need to meet up with the IT department to discuss in more details

Amazon server is free if I use it within the free tier provided. However, the machine is very small and slow and I sometimes experience lag when multiple process running at the same time.

These two things are the main concern in the implementation currently that I have to settled at the beginning of the next semester to speed up the process.

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<sup>9</sup> Yob reader (2013), GitHub. Retrieved from <https://github.com/yob/pdf-reader>



## **CHAPTER 4 - CONCLUSION**

Online Thesis Management System is an attractive solution for many major universities in the world. Although this project only discusses only a small component of the system, it tries to solve one of the common problems facing Ph.D. students and professors. The reviewing system in this project is trying to make the whole thesis review process faster, more convenient and efficient to students, professors and other university and department staffs. The goal of this project is to create a well-designed and well-implemented reviewing system which can serve as the prototype for the whole product.

## REFERENCES

1. NUS Engineering Bulletin, Ph.D degree requirement (2013). Retrieved from [http://www.nus.edu.sg/registrar/nusbulletin/FoE/GD/gradedu.html#5\\_1\\_1](http://www.nus.edu.sg/registrar/nusbulletin/FoE/GD/gradedu.html#5_1_1)
2. NUS Business Bulletin, Ph.D degree requirement (2013). Retrieved from [http://www.nus.edu.sg/registrar/nusbulletin/Biz/GD/gradedu.html#4\\_1\\_1](http://www.nus.edu.sg/registrar/nusbulletin/Biz/GD/gradedu.html#4_1_1)
3. 3. NUS Science Bulletin, Ph.D degree requirement (2013). Retrieved from [http://www.nus.edu.sg/registrar/nusbulletin/FoS/GD/gradedu.html#4\\_2](http://www.nus.edu.sg/registrar/nusbulletin/FoS/GD/gradedu.html#4_2)
4. NUS – Thesis Submission and Examination (2013). Retrieved from <http://www.nus.edu.sg/registrar/event/gd-thesisexam.html>
5. Ideas Source, blankdot.com (2013). Retrieved from <http://ideasource.blankdots.com/2013/01/academic-thesis-management-system/>
6. jcechace, GitHub (2013). Retrived from <https://github.com/jcechace/Thesis-management-system>
7. Alexander Willner (2013), Sophisticated LaTeX Review Template, GitHub. <https://github.com/Thesis/Review>
8. Matthias Rupp (2008), Review Checklist. Retrieved from
9. Yob reader (2013), GitHub. Retrieved from <https://github.com/yob/pdf-reader>

## APPENDIX 1

Some of the formatting that is normally required by the universities are show below. Research based on NUS format requirement and University of Chicago

- Fonts
- Line Spacing
- Margins
- Page Numbers
- Parts of Dissertation
- Cover page
- Title Page layout
- Tables of Contents
- List of Tables, figures, other lists
- References and Footnotes
- Appendices
- Bibliography
- Supplementary Files

Each of the bullet points above can be a customizable field in the formatting check.

Information retrieved from NUS, NTU and University of Chicago website:

[http://www.ntu.edu.sg/Students/Graduate/AcademicServices/ThesisExamination\(forresearchstudents\)/Pages/Formatoffinalthesis.aspx](http://www.ntu.edu.sg/Students/Graduate/AcademicServices/ThesisExamination(forresearchstudents)/Pages/Formatoffinalthesis.aspx)

<http://www.lib.uchicago.edu/e/phd/pdf/booklet2011.pdf>

<http://www.fas.nus.edu.sg/ecs/undergraduate/EC4401%20HT%20Guide.pdf>

[http://www.ceg.nus.edu.sg/CG4001/forms/FYP\\_appendix\\_1\\_Oct09\\_Guide.pdf](http://www.ceg.nus.edu.sg/CG4001/forms/FYP_appendix_1_Oct09_Guide.pdf)