# Software Requirements Specification

for

# Project Zelda

Version 1.3 approved

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# Table of Contents



# Revision History

| Name | Date | Reason For Changes | Version |
|---|---|---|---|
| SRS v1.0 | 05/09/2018 | Initial document. | 1.0 |
| SRS v1.3 | 24/09/2018 | Addition of initial details. | 1.3 |

# 1. Introduction

## 1.1 Purpose

*The product is a plugin created for our university's Moodle (moodle.niituniverity.in) for the sole-purpose of aiding in the smooth function of NEPL (Nano-Electronics Premier League). The proposed product will help the organizers and the faculty in-charges to keep track of each student's webQuests/research paper. It'll also help simplify the process of grading. In other words, the proposed software provides a web based research development and publication platform for the university where the students can create their research papers online.*

## 1.2 Document Conventions

*The document will stick to the font 'Calibri', though variations of it might be put to use. The font size will also be set at '16' for normal text and a little more for the headings. Aspects of the SRS prescribed by IEEE that is not currently applicable to the project at hand will be marked as TBD. Every requirement statement is to have its own priority.*

## 1.3 Intended Audience and Reading Suggestions

*The document is intended for developers, project managers, users (faculty, project managers, students), testers, and our team. The following SRS consists of what our plugin intends to do, how it'll end up looking and what functionalities will be provided to each individual user. Developers/Testers are suggested to go through the entire documentation. The users should go through the introduction followed by the overall description section and finally the system features.*

## 1.4 Product Scope

*The software being described here will let the project managers and the faculty divide the students into groups and assign each group a topic of research which the students can then access. The students will be provided with an efficient text editor to work on their research paper. They can also keep track of the deadline from within the website. The faculty will have plagiarism checkers readily available. They will also have a window for grading each student. The goal here is to simplify this process of student-teacher interaction and the proposed model seems to efficiently fulfill this goal.*

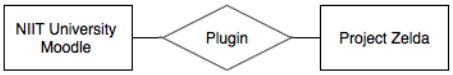
## 1.5 References


- *NIIT University's Moodle UI guidelines (We do not have access to the documentation yet but the website is accessible).*
- *830-1998 - IEEE Recommended Practice for Software Requirements Specifications.*

# 2. Overall Description

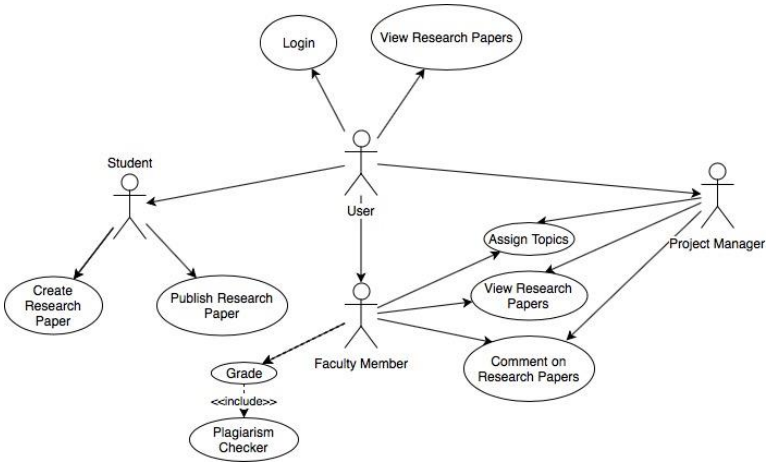
## 2.1 Product Perspective

*While the project was initially going to be proposed as a stand-alone web portal for submission and maintenance of research papers, the process later seemed to be redundant considering how all the students and faculty members are already registered on the university's Moodle. As a result, we later shifted from the idea of creating a separate portal to simply creating a plugin to provide all the functionalities that current Moodle cannot provide in order to fulfill our goal.*




## 2.2 Product Functions

1. *Create research papers with many templates to choose from.*
2. *Provide the faculty members a platform to see, grade and comment where they feel the student needs to improve.*
3. *Allow the document to be published.*
4. *Get a link that enables the document to be viewed externally without signing in to Moodle.*
5. *Allow connectivity with other platforms like Google Scholar, Springer, etc.*
6. *Text freedom and formatting.*
7. *Provide a plagiarism checker to the faculty members.*




## 2.3 User Classes and Characteristics

*There will be four user classes for this product:*

1. *Students: The university students who will be creating the research papers intending to either publish them or get them evaluated.*
2. *Faculty Members: The users in-charge of handing out topics and evaluating students who want to publish their research papers.*

3. *Project Managers: Senior students in-charge of managing a certain group of students.*
4. *Guests: They can view selected research papers without logging in.*

## 2.4 Operating Environment

*The system has four active actors and one cooperating system: the author (student), reviewer (faculty member), a reader accesses a selected set of papers without logging in and finally the project managers. These actors have common functionalities and we must make sure that there is no conflict. For instance, when a student is editing a research paper that is being viewed by an online user, there may arise a conflict. Such conflicts must be addressed.*

## 2.5 Design and Implementation Constraints

*Since the product here is a plugin being created for an already existing service, the customer's organization (NIIT University) will be responsible for maintaining the delivered software. Moreover, we might be posed with some constraints regarding the UI because the plugin is being created for an already existing website with an established UI.*

## 2.6 User Documentation

*TBD*

## 2.7 Assumptions and Dependencies

*TBD*

# 3. External Interface Requirements

## 3.1 User Interfaces

*TBD*

## 3.2 Software Interfaces

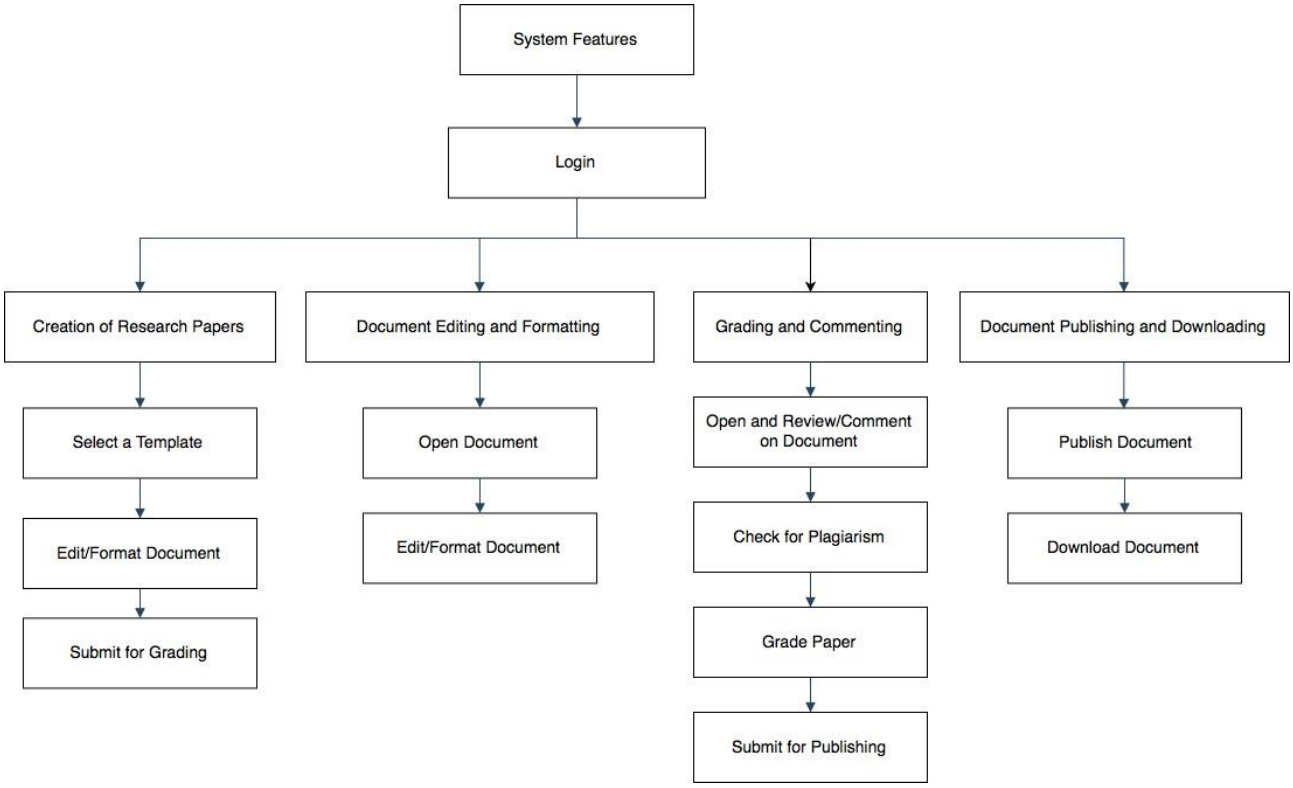
1. *An updated browser (Google Chrome v45.0.2454 and up, Mozilla Firefox v36.0.1 up and Safari v6.2.8 and up)*
2. *A Network Interface Card*
3. *Network Drivers*

## 3.3 Communications Interfaces

*Since we are creating a plugin for an already existing website, we'll use all the communication interfaces of the parent website.*

# 4. System Features

*The following is a list of system features that our system offers ('1'=Lowest Priority and '9'=Highest Priority):*




## 4.1 Creation of Research Papers

### 4.1.1 Description and Priority

*Allowing users to create standardized documents from a set of templates, that are of the format the teacher wants. Initially, the application will be used only for submitting papers but later can also be used to create official research dockets according to good paper writing conventions. Since this is the basis of what our system offers, it has a priority of 9.*

### 4.1.2 Stimulus/Response Sequences

*Once a user logs into his/her Moodle account, he/she will have the liberty to use the plugin. An option of usage of this feature will be displayed: it could be an icon or appear as a clickable item on Moodle.*

### 4.1.3 Functional Requirements

*The university's Moodle must have the following requirements fulfilled for this particular feature of the plugin to function:*

*REQ-1. Ability to distinguish between student, faculty and project manager during login.*

*REQ-2. A fully functioning and powerful text editor.*

*REQ-3. A list of curated templates for the user to choose from.*

*The following bullet points illustrates how the plugin will behave if and when an error occurs along with what we have done to circumvent:*

- TBD

## 4.2 Document Editing/Formatting

### 4.2.1 Description and Priority

*Allows users to edit already created documents, provide predefined templates for ease of work and also format the documents to make them more systematic and appealing.*

### 4.2.2 Stimulus/Response Sequences

*Once a user logs into his/her Moodle account, he/she will have the liberty to use the plugin. The user can open an already created document or create a new one, following which, he/she will be taken to a text editor through which the document can be edited/formatted.*


### 4.2.3 Functional Requirements

*The university's Moodle must have the following requirements fulfilled for this particular feature of the plugin to function:*

*REQ-1. Ability to distinguish between student, faculty and project manager during login.*

*REQ-2. A fully functioning and powerful text editor.*

*REQ-3. A list of curated templates for the user to choose from.*

*The following bullet points illustrates how the plugin will behave if and when an error occurs along with what we have done to circumvent:*

- TBD

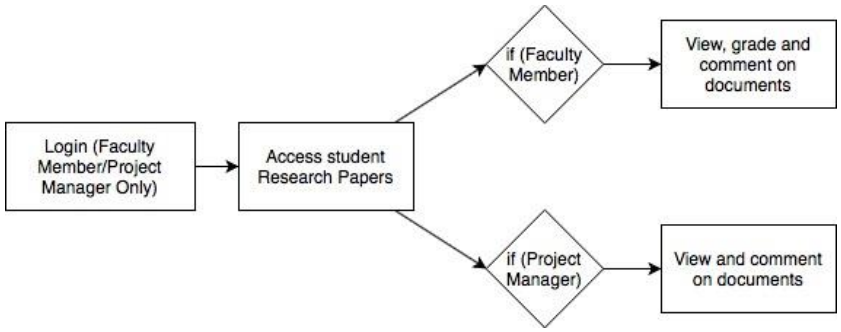
## 4.3 Grading and Commenting

### 4.3.1 Description and Priority

*Allowing users with permission to grade (faculty members) and comment (both faculty members and project managers) on research papers of students working under them. They can view the document but cannot make changes to it. Since this plugin is mainly focused on making the student-teacher interaction more seamless, this particular requirement is very important with a rating of 7.*

### 4.3.2 Stimulus/Response Sequences

*An option of usage of this feature will be displayed: it could be an icon or appear as a menu item on the document page.*




### 4.3.3 Functional Requirements

*The university's Moodle must have the following requirements fulfilled for this particular feature of the plugin to function:*

*REQ-1. Ability to distinguish between student, faculty and project manager during login.*

*REQ-2. A system to grade each student.*

*REQ-3. A text editor which lets user to comment at any particular part of the document.*

*The following bullet points illustrates how the plugin will behave if and when an error occurs along with what we have done to circumvent:*

- TBD

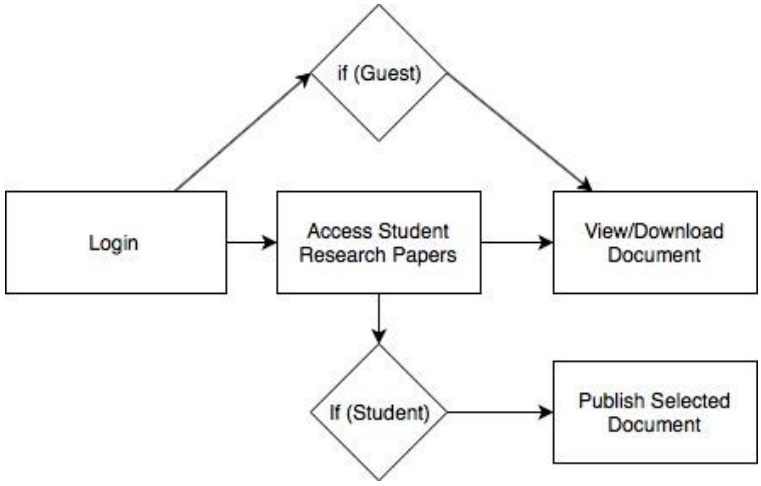
## 4.4 Document Publishing and Viewing/Downloading

### 4.4.1 Description and Priority

*Allowing students (initially, only students will be allowed to create a research paper, this plugin will later be offered to anyone who has an account on Moodle) to create their documents online, on a browser and access it from anywhere as long as they are connected to the internet. Therefore, a student can keep his document on the cloud and can view/download it whenever and in whatever format (.pdf, .docx, etc.) he/she wants. This is also an integral part of the plugin's functioning and as a result has a priority rating of 9.*

### 4.4.2 Stimulus/Response Sequences

*Once a user logs into his/her Moodle account, he/she will have the liberty to use the plugin. An option of usage of this feature will be displayed after a document is opened up. It will appear as a drop-down list on Moodle (list will contain format types).*




#### 4.4.3 Functional Requirements

*The university's Moodle must have the following requirements fulfilled for this particular feature of the plugin to function:*

*REQ-1. Ability to distinguish between student, faculty and project manager during login.*

*REQ-2. Ability to let a guest perform a list of actions without logging in.*

*REQ-3. Ability to store documents in the server and fetch them on request.*

*The following bullet points illustrates how the plugin will behave if and when an error occurs along with what we have done to circumvent:*

- TBD

# 5. Other Nonfunctional Requirements

## 5.1 Performance Requirements

*The system should not falter when multiple users try to create a new document. Needless to say, there should be a timeout for inactivity. Moreover, the document must also be automatically saved periodically in order to avoid any data loss due to a potential system crash. Also, there is a possibility of multiple people viewing the document when a user is editing. The system should have a built-in safety mechanism to make sure that the system does not fail in such a scenario.*

## 5.2 Safety Requirements

*The chances of risks are already low since they are assumed to be non-existent considering how the system here is just a plugin for a parent website. In other words, it is assumed that the parent website is taking care of all the safety requirements.*

## 5.3 Security Requirements

*A user will be able to use this plugin only if they have explicit permission (managed by parent website). No party other than the permitted document owner can edit or make changes to the documents. Even the faculty members cannot make changes to the document though they can comment. Again, the parent website is assumed to be secure enough for the plugin to work without security issues.*

## 5.4 Software Quality Attributes

1. *Since it is a plugin, it will be very easy to update so as to support newer versions of Moodle.*
2. *The plugin will always be available. It's only when the parent site fails that the user won't be able to use the plugin's features.*
3. *Since the plugin offers a text editor and a seamless relationship between student-teacher interaction (in terms of assignments), the plugin can be used for pretty much anything right from NEPL to a normal subject related assignment.*
4. *Since it is not attached to the main site, maintenance will be extremely easy for the plugin.*
5. *It will also be extremely easy to incorporate the plugin into Moodle because the plugin is more or less an extension of what Moodle already offers.*

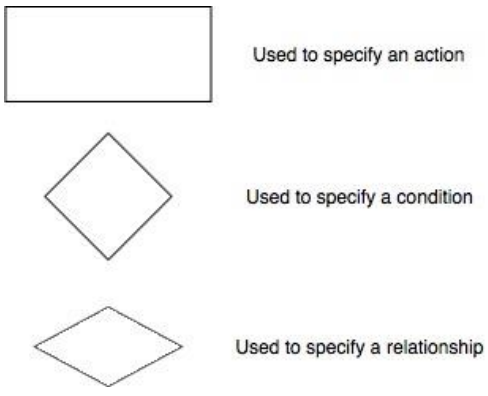
## 5.5 Business Rules

*If in case a document owner loses access to his/her document, the admin (parent website maintainers) will be permitted to view and edit the document meant only for recovery. There is otherwise no alteration to the aforementioned hierarchy of user functionalities.*

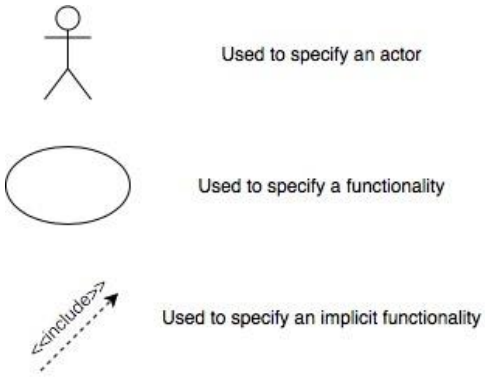
# 6. Other Requirements

# Appendix A: Glossary

1. *TBD stands for 'To Be Decided'.*
2. *To correctly interpret the flow charts:*



3. *To correctly interpret the use-case diagram:*




# Appendix B: Analysis Models

*TBD*

# Appendix C: To Be Determined List

1. *(2.6) User Documentation*
2. *(2.7) Assumptions and Dependencies*
3. *(4.x.3) Functional Requirements*
4. *Appendix B*