Software Requirements Specification

for

Student faculty interaction

Version 1.0 approved

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# Introduction

## Purpose

The purpose of this document is to come up with a idea that makes the Student and faculty interaction better, so this document will have all the idea we have collected to make such type of system with some future outcomes of how this project may work, features which will added later since some idea may be rejected as we develop this product.

So this document will provide the detailed information about our project , ideas , target customers , goals and working of this project to set some ideas on how this project is going to work ,its functionalities and SDLC process.

## Document Conventions

Mostly we have tried to keep this document as simple as possible with standard convention being followed font is times with font 11, also we have tried to keep the requirements as specific as possible and having its own priority but some requirements are inherited by its detailed requirement as some requirements have no meaning of itself before a particular action is done.

## Intended Audience and Reading Suggestions

This document is intended for-

* Project manager
* Developers
* Users
* NIIT University
* Marketing staff

The project manager and Developers are intended to read overall description, interface requirement, system features and non functional requirements in order.

While users and Niit University must read the documents introduction, Operating environments, interfaces and features which will be provided through our platform.

And the marketing staff should read the features and non function requirements.

Introduction is important part of any project but since we will be discussing our project with our team that’s why they may or may not read introduction.

## Product Scope

Basically our goal of making this platform is to make interaction between students, faculties and the college authorities better. We will be building a web platform in the form of moodle plug-in so that students don’t need to go for separate webpage to give their valuable feedback on topics being coved in lecture and daily academics work same goes for faculty and HOD and dean can keep a eye on lectures being delivered per day.

Our basic aim is to promote students to learn and listen good in lectures , faculty getting to know how much students have learn and should they go on next topic or not.

This would help us to keep students record, their understanding pace which could be very helpful for university to keep track.

## References

One of our basic reference is

<https://moodle.org/>

# Overall Description

## Product Perspective

This would be kind of a replacement and also a follow on member of the product family i.e. feedback in moodle. We are extending its features and also adding new features which would help students as well as faculty to understand their needs and deliver accordingly.

## Product Functions

* Tracing lecture topics being taught.
* Rating those topics based on understanding
* Rescheduling/ cancelling of class.
* Makeup class for concepts.
* Teachers profile/concern fields for researches and training.

## User Classes and Characteristics

* Faculty – since the would like many feature which will reduce their pen and paper work
* Students- Help them to study better .
* HOD- keeping an eye on the lectures
* Dean- knows what all is going on

One thing which we wont be adding for current version would be theoretical subjects that would need different aspects for them to add to out platform.

## Operating Environment

Though users would be able to use it on any platform being ot windows or linux or mac since it is a eb platform but we would be making it on linux environment for some particular reasons.

## Design and Implementation Constraints

* As mentioned it would be customers organization that would be maintaining the software, since it would be a moodle plug-in which would be used by moodle community.
* Security is a major concern for research work.
* A good no of users would be required to make this a successful so we need good participation and time by students and faculties to check this out.

## User Documentation

The user documentations would be like

* Project submissions which are already a part of moodle can be associated with our web platform.
* Ratings per topic as a graphical representation on course timeline for faculty/HOD.

## Assumptions and Dependencies

Our basic assumptions are

* That student would give generic ratings.
* We would be able to alter the table of database we are using currently.
* We would get a database for testing our platform.
* There is an order/function for separating students in groups/ sections.
* Students are rating themselves and not teachers.
* Faculty will only see average rating and not student wise rating.
* Getting a server space in universities server.

Our developing environment would be linux.

# External Interface Requirements

## User Interfaces

The user interface which we would use would be a very user friendly and a attractive one , which might not make people sick but would like to visit it.

The points which we would be keeping there would be short and very much to the point so that lazy to lazy people can get its idea very quickly.

We would follow the basic design which moodle accepts to make our plug –in accepted in moodle community.

The more creative we make the more user will use it which will show better productivity for this platform.

## Hardware Interfaces

Since this is a web platform so any device which can access internet or connect to college wifi can access this web page. This includes smart phones, laptops, desktops etc.

The communication protocol would be same as moodle uses and we would be hosting this site for our college though our college servers and would likely want to add this as a moodle plug-in for all the universities which are using moodle.

## Software Interfaces

For our web platform we would be using PHP , JavaScript , HTML, CSS, Jnode and basic web designing platforms such as eclipse , netbeans or mozilla.

For server we will be using apache and database would be mysql ,operating system would be linux so basically we would be using LAMP.

We would also be using moodle , since our college is using moodle 2.6 so same version would be used.

## Communications Interfaces

The communication model which we would be using will be through moodle and mail as well, like we will try to extend this system for attendance alert which for which we would be mailing students. Also any rescheduling of classes would be informed through messaging or email.

Since we will be building our platform online on moodle so it would be using HTTP protocol for communication.

Since this won’t be any important credential Email/ messaging so there is no need for us to use encryption since we would be generating mails so basic encryption by emailing services would be used.

# System Features UseCaseDiagram.png

|  |  |  |
| --- | --- | --- |
| Requirement ID | Requirement name | Requirement info |
| R1 | Tracking of concept | Lecture wise tracing of concepts/ course handout |
| R2 | Rating aspect | Like practical concept, numerical etc for some topics |
| R3 | Rating of concept | Student must rate the concept on the basis of their understanding |
| R4 | Faculty review | After students have rated , teachers should be able to know the frequency and avg rating |
| R5 | Request to meet faculty | Based on project related or lecture related |
| R6 | HOD review | Lectures of their particular subjects |
| R7 | Project progress | Tracing of project works and deadline to submit |
| R8 | Suspension/rescheduling of class | Lectures and tutorials |
| R9 | Profile | About research work and interested feilds |
| R10 | Mid sem feedback | Discussion , rating and solutions |

## Tracking of concept

4.1.1 Description and Priority

In this feature Students will be able to track every concept which have been completed in lecture.

Priority components-

* Benefit- 9
* Penalty-low priority
* Cost-6
* Risk-2

4.1.2 Stimulus/Response Sequences

Faculty will list the topics that he/she have covered in the lecture which would be like a checkbox to them which they just have to select.

4.1.3 Functional Requirements

1. Topics should be entered before the starting of the course so that that the time faculties just have to tick the topics covered (does not means extra things could not be added to it).
2. Redirected to the page of topics covered for students.
3. Open a feedback Form for functionality 2.

## Rating Aspects

4.2.1 Description and Priority

In this feature Students will be able to know their problem in better way.

Priority components-

* Benefit- 9
* Penalty-1
* Cost-7
* Risk-1

4.2.2 Stimulus/Response Sequences

Faculty should maintain different aspects according to topics use and type so that student can know specifically where his/her problem lays, like- practical use , numerical , theory etc

4.2.3 Functional Requirements

1. Aspects must be prepared before the commitment of the lecture or opening of feedback window.

## Ratings/Self evaluation

4.3.1 Description and Priority

In this feature Students will be able to rate every concept which have been completed in lecture.

Priority components-

* Benefit- 9
* Penalty-5
* Cost-9
* Risk-2

4.3.2 Stimulus/Response Sequences

Now those items would be listed in students interface and they have to rate those topics according to their understanding. once they have rated before their next lecture teacher would be able to see no of students that have rated and work accordingly.

4.3.3 Functional Requirement

1) 1st requirement must be performed.

2) Before the next lecture is scheduled rating must be provided.

3) No one can rate twice, if absence in lecture must not be able to rate.

4) Rating topic must close after a weekend.

## Facuty review

4.4.1 Description and Priority

In this feature Faculty will get a graphical representation on how much and how many students have understood the topic.

Priority components-

* Benefit- 9
* Penalty-low priority
* Cost-6
* Risk-2

4.4.2 Stimulus/Response Sequences

After the students have rated and the feedback window has closed , now the system would generate a avr rating which then would be available to faculty.

4.4.3 Functional Requirements

1. Feedback window must be closed.
2. Generate avg ratings and no of persons to rate.

## Request to meet faculty

4.5.1 Description and Priority

In this feature if students have doubt in particular topic or problem solving he/she can request a meeting with teacher while mentioning the topic student have problem in and teacher can take a extra class or call them together in his/her cabin.

Priority components-

* Benefit- 6
* Penalty-low priority
* Cost-3
* Risk-1

4.5.2 Stimulus/Response Sequences

Student initiate this , include topic and send request . this would be shown topics wise to teacher so that he/she can reply to them the time to meet and venue.

4.5.3 Functional Requirements

1. Request button.
2. Arrange the request topic wise.
3. Send mail for time and venue to meet by faculty.

## HOD review

4.6.1 Description and Priority

In this feature Head of department can view the completion of topics by teacher and also see the ratings and extra classes scheduled for that course.

Priority components- Middle priority

4.6.2 Stimulus/Response Sequences

Any point of time they can visit the course and its progress.

4.6.3 Functional Requirements

1. Generate couse progress with avg ratings of faculty .\
2. Extra classes faculty have scheduled.

## Project progress

4.7.1 Description and Priority

In this feature Students can update how much they have covered in their project so that the faculty can see how regularly they have worked and also upload the same here.

Priority components-

* Benefit- 9
* Penalty-low priority
* Cost-9
* Risk-6

4.7.2 Stimulus/Response Sequences

Faculty can give some intermediate steps for completion of project where students can mark them and upload them before the actual submission of project.

4.7.3 Functional Requirements

1. Email 2 days before the deadline.
2. Generate names of students who haven’t submitted .
3. Emailing those names to teachers.

## Suspension/rescheduling of classes

4.8.1 Description and Priority

In this feature Faculty can reschedule/suspend classes and a message would be send to all those who are enrolled in that course.

Priority components-

* Benefit-4
* Penalty-low priority
* Cost-1
* Risk-1

4.8.2 Stimulus/Response Sequences

Faculties just have to put it on message to couse and then it would be send to all enrolled in that course.

4.8.3 Functional Requirements

1. Once event has been created generate update to HOD.
2. Generate email to all students enrolled.

## Faculty profile

4.9.1 Description and Priority

In this feature Faculty will update his/her research field , interest field and past work in research he/she has done so that students can know who to contect for a particular topic of research.

Priority components-

* Benefit- 5
* Penalty-low priority
* Cost-3
* Risk-2

4.9.2 Stimulus/Response Sequences

Faculty can update these things on this platform and upload reference links here so that students can learn from that and can contact them if needed.

4.9.3 Functional Requirements

1. Good search engine to search topics.
2. The searched topic should look into database and can show name of faculties that have done work in related field.

## Mid sem feedback

4.10.1 Description and Priority

In this feature Students will be able to put doubts and give mid sem feedbacks about paper

Priority components-

* Benefit- 9
* Penalty-5
* Cost-9
* Risk-2

4.10.2 Stimulus/Response Sequences

Students can put their doubt regarding question paper, topic and solutions.

4.10.3 Functional Requirement

1) Should open once exams are over.

2) Put your doubt on the discussion form.

3) Faculty should upload solutions here and should resolve doubts and these updates should be given to students

# Other Nonfunctional Requirements

## Performance Requirements

Since this is a web platform and this might be possible that after midsems the traffic here would be very much so it would be very necessary on how to distribute this traffic.

Also the ratings should be real time .

## Safety Requirements

Moodle use cookies so only safety requirement would be cleaning this cookies form users devices since it can lead to space utilization as well as performance of their system.

## Security Requirements

The data we are creating using this software should be only for use of the university or organization using it , there should be admin who would take all the necessary action and authenticity for all the users.

All the ratings must be anonymous and should not be visible to the faculty .

Since this is a moodle plug-in so, all security related to login has already been taken care of.

## Software Quality Attributes

All of this is been done in moodle, so there would be moodle server which would take care of all this.

## Business Rules

In absence of HOD or faculty they can assign their roles to some other faculty which would then take ownership to inform or take care of any stuff they had control over.

# Other Requirements

Attendance: Faculty can poke students if their attendance is any time less than 75% or standards set by the organization using it.

Appendix A: Glossary

Avg- average

Moodle- it’s an open courseware which most universities use.

Appendix B: Analysis Models

Appendix C: To Be Determined List

Attendance alert- this feature is TBD

Messaging feature: its currently disabled so TBD