# Software Requirements Specification

# For

## Interactive Tutor Software

Version 1.0 approved

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## 1.1 Purpose

Interactive Tutor Software(ITS) intends to provide a online platform for providing a  quality education to students by creating a smooth and direct educational link between the teachers and the students. This document will not only help the developers to understand about how the software was  developed and its scope elements but will also help them to upgrade the version in the best way possible.

## 1.2 Intended Audience and Reading Suggestions

SRS for ITS is intended for anybody who wants to contribute in the development of the software. Its primary readers will be:
- Developers
- Users
- Testers
- Documentation writers
- Application researchers

## 1.3 Product Scope

This Product is designed to make a revolutionary change in the education system, it developes a strong bond between students and teachers. It provide a online
platform for providing a quality education to students by creating a smooth and direct educational link between the teachers and the students anytime anywhere.

## 1.4 References

*https://www.udemy.com/java-android-complete-guide/learn/v4/content : complete guide for app development.*

*https://developer.android.com/reference/android/database/sqlite/SQLiteOpenHelper.html : helpful resource for the development of database.*

## 2.0 Overall Description

2.1 Product Perspective

The software is primarily based on the idea of Distance Learning and making it more efficient and enjoyable. Students and teachers can interact in the same way as someone would do being actually present there.

2.2 Product Functions

The software creates a platform for the users(teachers and students) to do the following functions:

1. A login feature which authenticates the users and separates them as teachers and students.
2. Allows teachers to create a master/interactive board and teach students even more creatively
through diagrams and markers.
3. The teacher can start a live video streaming by touch of a button.
4. A question and answer window is provided which offers various options to teachers :
  4.1 . Hold the question
  4.2. Answer the question
  4.3. Delete the question
5. The student can even record a short video and send it to teacher to clarify his/her doubts.

2.3 Operating Environment

The software is web based currently and would work on Windows operating system having configuration intel i3 or more and a basic graphic card.

2.5 Design and Implementation Constraints

Internet being the backbone for this project availability, to a good and decent internet is needed, slow internet on the either side can create lag between teacher and student .

2.6 Assumptions and Dependencies

In some restricted environment there can be problems like slow internet on that network which could result in less optimal functioning to no functioning of the software.

# 3  External Interface Requirements

## 3.1 User Interfaces

Our user interface will be very simple and reliable so that it can be used by lower std students also.
As soon as the user interface will be ready we will provide snapshot.
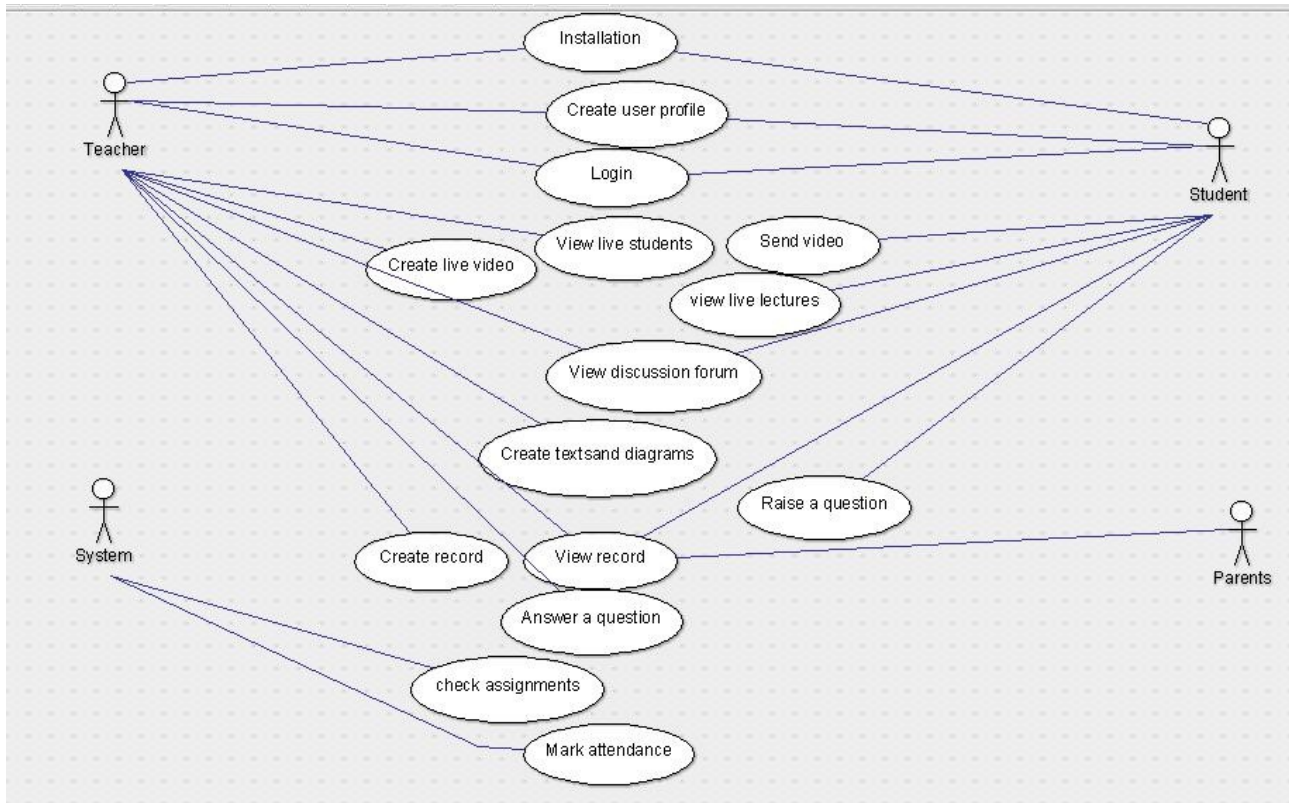
## 3.2  Hardware Interfaces

For the better writting on the screen a touch pen is given, and to make video quality more convenient one can use external camera. There wiil be customized type of setting provided for each teachers. Our purpose is to make a comfortable place for study. External mouse can also be used for writting purpose.

## 4.  Other Nonfunctional Requirements

| Requirement Identifier | Name | Description |
|---|---|---|
| 4.1 | Performance Requirements | This software is  to work  where the teacher and student can login simultaneously  and work together. Starting a live video and receiving should be the highest priority. |
| 4.2 | Safety Requirements | There are no safety requirements as such. |
| 4.3 | Security requirements | Security concerns with this application consists of data loss such as data corruption and data manipulation. |

## 5.0   Use cases:



## 5.1   Login
5.1.1 Description and Priority
A System feature to determine and authenticate the user profile.
5.1.2 Stimulus/Response Sequences
The user(teacher, student and manager) will provide the username, Mobile number  and password so
that the credentials can be checked and be authenticated.

The user can then login to the system using these credentials and can also change
the password. Once the update profile page is done , then the user is redirected to the main user dashboard.

If the authentication fails, an error is displayed on the page stating "invalid details "

We display a link which will direct the user to registered  themselves.
and if the user forgets their credentials they are given a chance to recover
them.

The three phases for this module are the Teacher phase, the student phase
and the Manager phase.
Priority: High

| Requirement Identifier | Name | Description |
|---|---|---|
| LP_1 | Login phase 1 | Check for the mobile number input box, if greater than 10 digit state false |
| LP_2 | Login phase 2 | Check for Password input box (greater than 8 characters) |
| LP_3 | Login phase 3 | Teacher phase and student phase check box(to be ticked) |
| LP_4 | Login phase 4 | Change password and update profile methods |
| LP_5 | Login phase 5 | Main student  window if LP_3 is student phase |
| LP_6 | Login phase 6 | Main teacher window if LP_3 is teacher phase |
| LP_7 | Login phase 7 | Help windows |

## 5.2   Parents Login :
5.2.1 Description and Priority
Parents can logged to look their students record and to provide any
suggestion or any complain related to students.
Priority : High

Parents login is available to the student portal only, from their parents will be directed to thier portal.
5.2.2 Stimulus/Response Sequences
The only phase of this feature is available for parents with specific password.

## 5.3   Video Streaming
5.3.1 Description and Priority
A feature to broadcast teacher directly to students .
Priority: High
Broadcasting of high priority will be for only those who have registered for that course.
Broadcasting managed by Manager as per request by teachers.
5.3.2 Stimulus/Response Sequences

Two phases of this feature, one is the Teacher phase and other is the student phase.
The teacher phase (logged in) will show the following features:
Start Live video streaming
Pause the video

| Requirement Identifier | Name | Description |
|---|---|---|
| VS_1 | Video streaming 1 | First student phase or teacher phase is checked On the basis of their credentials |
| VS_2 | Video streaming 2 | If it is Student phase ,load the video system of student side |
| VS_3 | Video streaming 3 | If it is Teacher phase ,load the video  system of Teacher side |
| VS_4 | Discussion forum | After pause, if teachers pick up a doubt, it will redirect video streaming to discussion forum. |

| VS_5 | Video making | Teachers can make video for further utilization. |
|------|--------------|---------------------------------------------------|

## 5.4   Writing and editing

5.4.1 Description and Priority

A bar which has various options of writing, drawing and editing on the screen.

Priority: High

5.4.2 Stimulus/Response Sequences

It has only one phase: The teacher phase

The teacher can write, draw and use various markers to teach concept more efficiently.

Priority: High

| Requirement Identifier | Name | Description |
|---|---|---|
| WE_1 | Writing and editing 1 | Login check , if yes check student phase or teacher phase |
| WE_2 | Writing and editing 2 | If teacher phase load the navigation bar for writing |
| WE_3 | Writing and editing 3 | If student phase view. (as white boad view) |
| WE_4 | Writing and editing 4 | Students phase – students can raise a questions |

## 5.5   Online availability

5.5.1 Description and Priority

A feature which allows the teacher and manager to see online students.

Priority: Medium

5.5.2 Stimulus/Response Sequences

It has only one phase The teacher phase .

The teacher can see which students are currently attending the lecture.

| Requirement Identifier | Name | Description |
|---|---|---|
| OA_1 | Online availability 1 | Login check , check student phase or teacher phase |
| OA_2 | Online availability 2 | If teacher phase load available online students |
| OA_3 | Online availability 3 | If student phase : students can see which teacher is online and whose lecture is going on. |
| OA_4 | Online availability 4 | Self machine Manager mark attendence for students and teachers. |

## 5.6   Question

2.6.1 Description and Priority

A feature that allows the student to raise a question and the teacher to see it.
Priority: High
2.6.2 Stimulus/Response Sequences
It will allow the student to ask a question to the teacher through writing.
It has student phase and teacher phase .
Student will have option to ask questions.
Teacher will get a list of students asking queries.

| Requirement Identifier | Name | Description |
|---|---|---|
| Q_1 | Question 1 | Check Login, if yes check teacher phase or student phase. |
| Q_2 | Question 2 | If student phase, load question window which allows to write it. |
| Q_3 | Question 3 | If teacher phase, show a window with students asking questions. |

## 5.7    Respond Questions
5.7.1 Description and Priority
The questions asked will be answered using this feature.
Priority: Medium
5.7.2 Stimulus/Response Sequences
It has only one phase :The teacher phase
The teacher will have the following options:
1.Remove question
2.Put it on hold
3.Answer it.

| Requirement Identifier | Name | Description |
|---|---|---|
| RQ_1 | Respond questions 1 | Login check, If true Check Student phase or teacher phase |
| RQ_2 | Respond questions 2 | If teacher phase, Load the Respond questions window and takes |

| | | input from the teacher such as provide answer, hold it etc. |
|---|---|---|
| RQ_3 | Respond questions 3 | If student phase, load the view answers window |

## 5.8 Video sending option

5.8.1 Description and Priority

The questions or any queries can also be asked by as sending a small video clip to the teacher.

Max size of video:20 Mb

Priority: Low

5.8.2 Stimulus/Response Sequences

The feature is for only student phase .

The student needs to take care of the size of the video.

| Requirement Identifier | Name | Description |
|---|---|---|
| VS_1 | Video sending 1 | Login check, If true Check Student phase or teacher phase |
| VS_2 | Video sending 2 | If student phase, load the video record option |
| VS_3 | Video sending 3 | If teacher phase, show the received videos |

## 5.9 Auto Managing System

5.9.1 Description and Priority

This specific part of software is automatic, which will be responsible for marking attendance for all teachers and students.

This also covers the details of assignment done by students.

And topic covered by teachers.

Priority : Medium

**5.10  Record :**

5.10.1 Description and Priority

All the records of individuals is saved in database will be visual to Parents,teachers and Manager.

Feedback is available to this section only which can be seen only by the higher authorities only.

5.10.2 Stimulus/Response Sequences

This feature is available for parents, teachers, manager and higher authorities.

Priority : High