# **Chapter 3 - Requirement Specification.**

## **Functional Requirements.**

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| **ID** | **Requirement** |
| REQ 1 | Conferencing |
| REQ 1.1 | Audio Conferencing |
| REQ 1.2 | Video Conferencing |
| REQ 1.3 | Recording Ability |
| REQ 2 | Shall be able to Pay tuition fees online |
| REQ 3 | Chat ability |
| REQ 3.1 | Should be able to ask and answer questions while tutoring |
| REQ 3.2 | Should be able to chat with colleges privately |
| REQ 4 | Should be able to schedule new classes |
| REQ 5 | Ability to download / upload |
| REQ 5.1 | Class recordings |
| REQ 5.2 | Assignments |
| REQ 5.3 | Class Notes / Papers |
| REQ 6 | Message sending |
| REQ 6.1 | Send parents a message (whether the student have watched/attend the class or not) |
| REQ 6.2 | Send message/email to students when upload a video / organize a class |
| REQ 7 | Both tutor/ students fill an application to register |
| REQ 8 | Tutor should be able to check no of viewers who viewed the uploaded things |
| REQ 9 | Ability to convert video (video to audio) |

## **Non – Functional Requirements.**

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| --- | --- |
| **ID** | **Requirement** |
| REQ 1 | User Friendly |
| REQ 2 | Provide Security |
| REQ 3 | Maintainability |
| REQ 4 | Adaptability |
| REQ 5 | Installablity |
| REQ 6 | Replaceability |
| REQ 7 | Reusability |
| REQ 8 | Flexibility |

## **Performance Requirements.**

1. Recommended RAM capacity should be 4GB
2. To download the application minimum required ROM should be 32GB (to android phone via ‘google playstore’)
3. To run this application recommends 1.5 mbps internet speed
4. Need minimum of 32bit operating system
5. The recommended processor requirement is Dual core 2Ghz or higher (Intel i3/i5/i7 or AMD equivalent)
6. Supported OS windows 7 and upwards
7. Supported browsers Internet Explorer and Google Chrome
8. Recommended bandwidth for tutors for online classes:

* For 1: 1 Video conferencing:

1. 600kbps(up/down) for high quality video
2. 1.2mbps (up/down) for 720p HD video
3. Receiving 1080p HD video requires 1.8mbps (up/down)
4. Sending 1080p HD video requires 1.8mbps (up/down)

* For group video conferencing:

1. 800kbps/1.0mbps (up/down) for high quality video
2. Receiving 1080p HD video requires 2.5mbps(up/down)
3. Sending 1080p HD video requires 3.0mbps (up/down)

* For gallery view and/or 720p HD video 1.5mbps (up/down)
* For screen sharing only (no video thumbnail) 50-70kbps
* For screen sharing with video thumbnail 50-150kbps
* For audio VoIP 60-80kbps
* For online classes from phone 60-100kbps

1. Recommended bandwidth for students for online classes:

* For 1:1 video conferencing:

1. 600kbps (down) for high quality video and 1.2mbps(down) for HD video
2. For screen sharing only (without video thumbnail) 50-75kbps(down)
3. For screen sharing with video thumbnail 50-150kbps(down)
4. For audio VoIP 60-80kbps(down)

## **Security Requirements.**

1. Students’ details are only visible to the relevant Tutor.
2. Tutor’s details are only visible to his/her students.
3. Facilitate and maintained by admin only.
4. Both the student and the tutor must fill a form including their details when registering.
5. Maintain user Privacy (Can be login only using email and password.)
6. Password authentication.
7. Domain-based registrations.
8. Anti-virus.
9. Texts sent to the tutor cannot be deleted.

**When Doing Online Payments.**

1. Safe login screen.
2. SSL Protocol.

**When Doing Online Video Conferencing.**

1. Be wary of unknown emails.
2. Disable file transfer feature.
3. Notify the users when the meeting is being recorded.
4. Utilize waiting rooms or lobbies.
5. Not allowing participants to screen share by default. (Must get permission from the meeting organizer.)

## **Hardware Requirements.**

1. A Phone / Computer / Laptop

* Note: As this is a mobile web application if using a PC the user should download and install ‘Bluestacks’ application in their PC.

1. Browser
2. Internet access
3. A Modem / Modem + Telephone Line
4. ISP (Internet Service Provider)

## **Safety Requirements.**

1. Able to increase and decrease the sound as it might harm our ears.
2. Able to adjust the video’s brightness as it might harm our eyes.
3. Able to select an audio method (speaker, earphone) and able to adjust sound separately for different methods. So, the user can choose one which is more comfortable to his/her ears.

## **Summary.**

Our proposed application has functional requirements like video conferencing, online payments, chatting ability etc. Reusability, installability, maintainability are some non-functional requirements. As performance requirements need 32bit OS, minimum 4gb RAM, 1.5mbps internet speed etc. Be wary of unknown emails, SSL protocol, password authentication etc are under security requirements. As hardware requirements need a phone, internet access, browser. This application will allow to adjust brightness and sound as safety requirements.