# Virtual Classroom

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*Abstract*—The Virtual classroom environment is web-based and accessed through a portalor software basand require a downloadable executable file.

Just like in a real-world classroom, a student in a virtual classroom participates in synchronousinstruction, which means that the teacher and students are logged into the virtual learning environment at the same time.Many schools and businesses have rolled out virtual classrooms to provide synchronous distance education.

I have analysed and gathered efficient requirements to develop an effective virtual classroom software.

Keywords Raise hand ,chat application ,Polling

#### I. INTRODUCTION

Virtual classroom enhances the distance learning with the help of this web-based application.

System will provide the features such as POLL, Sharing Documents, Raise hand and view profile.

The system will allow conducting the survey in the form of common poll which will be Virtual Classroom will facilitate with applications such as Document Sharing, Conducting Sessions etc. Applications like Chat and Raise Hand provides easier communication and doubt clarification. The objective of the project "Virtual classroom"isto make evaluation and conduction of sessionsmassive but simple, cost effective and aster. They are as follows:

To provide an interface through which Participantcan view time table and could register for the session.

To provide facility of Raise hand while attending the sessions in Virtual Classroom.Online Sessions could be conducted.

Faculty can load presentation, view attendees, response participants query via chat, create poll, view poll response changed in timely basis. Also users can view timetable and response to poll.

Virtual Classroom application enhances the E-learning or Distance learning as this would be much more easier because it will facilitate people with higher communication and thus to get feel of normal classrooms.

#### II. SYSTEM ARCHITECTURE

I use a <u>3-tier</u> architecture based on open standards from Sun like Java EE, Servlet and Java Server Pages.

Presentation

Business

Data

**Presentation layer**: This layer contains the user oriented functionality responsible for managing user interaction with the system, and generally consists of components

**Business layer**: This layer implements the core functionality of the system, and encapsulates the relevant business logic

**Data layer:** Performs create, read, update and delete persistence operations





## III. ENTRY AND EXIT CRITERIA

Entry Criteria includes

The test environment such as hardware, software, system administration support should be ready.

All necessary documentations, design, requirements information should be available that will allow testers to operate the system and judge the correct behavior. Exit Criteria includes No high priority bugs are left outstanding. Test Schedule have been achieved.

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# IV. RELEASE NOTE

User Requires Windows Operatingsystem. RAM required for the product is 2GB + Client system requires Java Development ToolKit. Client system has to install Java Development ToolKit. Voice API-third party tool requires Internet.

#### V. TEST ENVIRONMENT

Properties of test environment (Hardware, Software etc.) are as follows:

Operating System for test environment required is Windows.

For proper look and feel of the GUI of the website the requirement is the higher or latest version of Google Chrome.

#### VI. TESTING STRATEGY

Testing	Name	Description
Strateg y Id		
TS1	Top- down testing	Top-down testing starts at the top of the program hierarchy and travels down its branches.
TS2	Class- level testing	Class-level testing exercises the interactions between the methods in a class. Testing at the class level is extremely effective in terms of code coverage
TS3	Metho d-level testing	Method-level testing exercises the different conditions defined in the method code in isolation from any other methods. The focus is generally on ensuring that the method correctly processes all of its possible inputs.
TS4	Web service testing	This approach will submit a series of requests to the server and will verify that server responses match the expected return values.

#### VII. STRENGTH AND LIMITATION OF PROJECT

Strength of the application is Student can view &

download study materials in form such as pdf, ppt and videos.

Application provides easy navigation and is user friendly. Application provides Live Session between Staff and the Student.

Limitation of application is its mandatory for the client side to have Java Development ToolKit installed.

### VIII. DEFECT AND ISSUE SUMMARY.

To have better streaming of live session the RAM of the system should be atleast 2GB.

#### IX. MODIFICATION AND IMPROVEMENT

To start the session GUI can be provided.

2. Report generation can be made on responses of poll questions.

 External API / Third Party Tool is used for voice transfer, rather in built application could be developed.
 Feasibility can be given to the staff to add number of poll questions as per requirement and desire.

## X. OUTPUT AND DEPLOYEMENT



Staff home page



Availaibility of Session





#### XI. CONCLUSION

The virtual classroom is a teaching and learning environment located within a computer-mediated communication system. Teachers and learners must be highly motivated. As the facilitator of instruction, the teacher has a wide range of pedagogical techniques from which to choose to design instruction that fits the learning needs of all students. The effectiveness of instruction in the virtual classroom is only limited by the technology, by the ability of all participants to use it, and most of all, by everyone's willingness to take an active role in the collaboration process.

Lecturer and students must accept that virtual learning sessions generally are more structured and predictable than learning sessions in the ordinary classroom

Students who already base their learning activity mainly on face-to-face interaction are likely to see the virtual classroom as an inferior substitute for 'the real

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