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Detailed Design-LiveClass

Hardware Requirements

Windows:

      Windows 7 and above (Windows 10 64-bit recommended)

      RAM: 512MB

      Disk Space: Recommended 512MB

      Processor: Minimum Intel Core i3-2120 processor

      GPU: Minimum Intel HD Graphics 4000

Mac OS X:

      Intel-based Mac running Mac OS X 10.8.3+

Linux:

      Ubuntu Linux 16.04 LTS and above

Software Requirements

Develop:

      JDK 8 and above

      Gson

      JavaCV

      JSTL

      Java EE 6 and above

      An IDE that supports Java EE (Recommend Eclipse Oxygen)

Production:
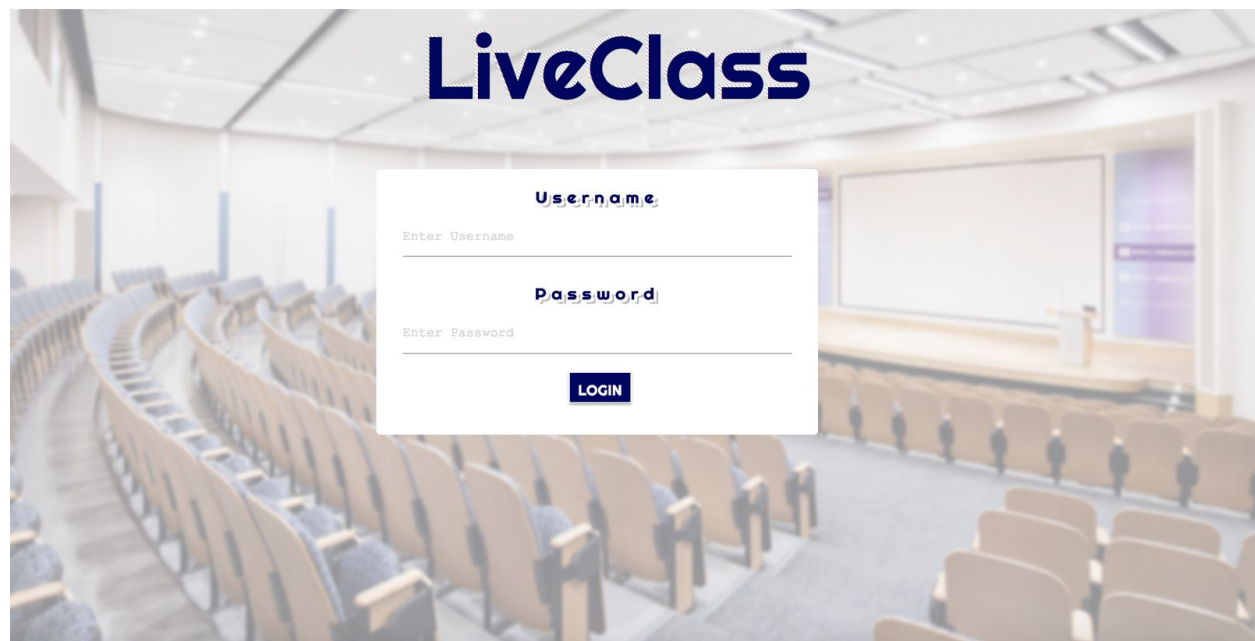
      JRE 8 and above

      Apache Tomcat 9.0 and above

GUI: Front-end wireframe

Home Page:

The home page will include a home button, a login button, a brief summary about the website, and a View All Lectures button.
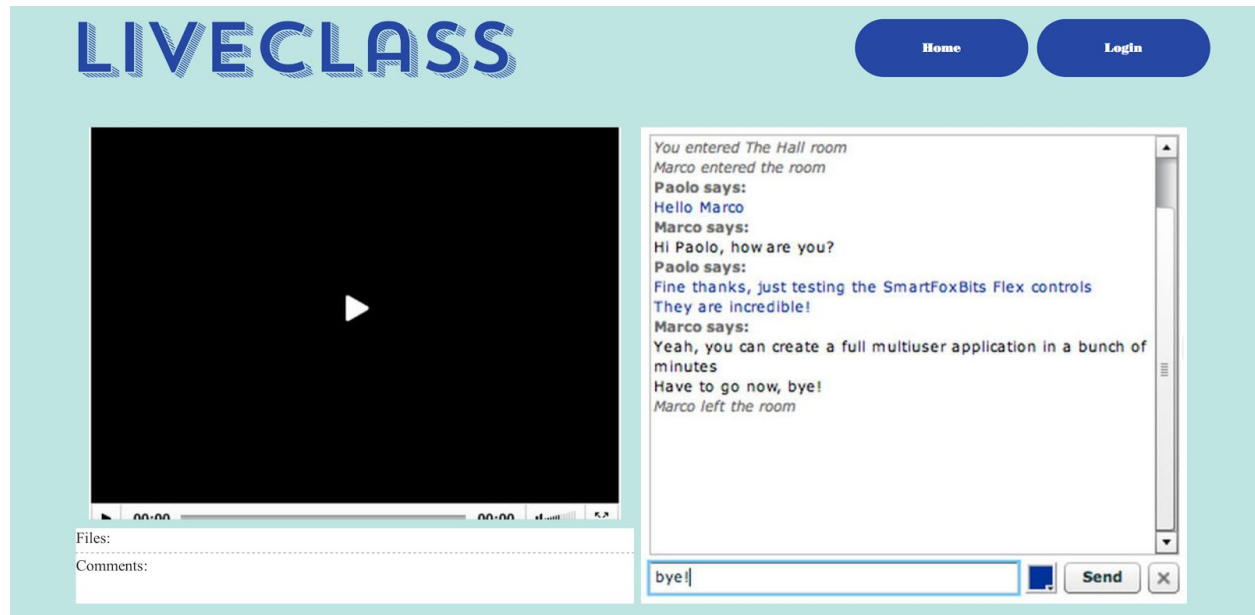
Login Page:

The login page will simply contain a box where the user can enter their username and password in order to log them into their accounts. Logging in will give them access to the courses they enrolled, as well as all public lectures.

Lectures Page:

The lectures page will look like this for any user that is logged in. The "Your Courses" box will contain all the courses that the user is enrolled in. The "All Public Lectures" box will contain all lectures that are available to users who do not have an account as well. When a user is not logged in, this page will look the same, just without the "Your Courses" box.

Streaming Page:

The streaming page will contain a video window on the left, where the lecture livestream will be shown. Under the livestream will be a box where files and comments uploaded by the professor will be located. On the right will be the chat window where students can chat with other students as well as with professors/TA's.

Database Schema

Primary key
Foreign key

<u>User Table</u>

userID	username	password	firstName	lastName	email	salt
int	*varchar(20)*	*varchar(15)*	*varchar(20)*	*varchar(20)*	*varchar(50)*	*varchar(100)*
1	blue	pass1	Harry	Potter	hp@usc.edu	bcb64d3e824b780a523a1d
2	green	pass2	Ron	Weasley	ronW@ucla.edu	dcb64d3e824b480a433a1d
3	red	pass3	Hermione	Granger	herRed@usc.edu	lds89d3e824b9040a383a1d

Course Table

courseID	coursePrefix	courseNumber	courseName	accessCode
int	*varchar(10)*	*varchar(10)*	*varchar(100)*	*varchar(100)*
1	CSCI	103	Intro to Programming	2cbf77b3-c11c-4d81-bd9e-ab209e1f38
2	CSCI	201L	Principle of Software Development	2c009-c11c-4d81-bd9e-ab209e1f3810
3	EE	109	Intro to Embedded System	77b3-c11c-48u1-bd9e-a786f9-e1f381

Course Privilege Table

courseID	userID	privilegeID
int	*int*	*int*
1	1	2
2	2	3

privilegeID → "Privilege Table".privilegeID
userID → "User Table".userID

Login Token Table

tokenID	userID	tokenNumber
int	*int*	*varchar(50)*
1	1	2cbf77b3-c11c-4d81-bd9e-ab209e1f3810
2	1	31dac624-9599-4ca0-8492-a52928f0725b

userID→ "User Table".userID

Privilege Table

privilegeID	privilegeNumber
int	*int*
1	0
2	6
3	26

Track Changes

- *salt* column is added into the *User* table.
- *accessCode* column is added into the *Course* table.
- *GUI: Front-end wireframe* images are updated.