Cos 301 Tender

DiGital BlackSmiths

Project name: Thutong Site Learning Centre

Client: Entelect

Members:

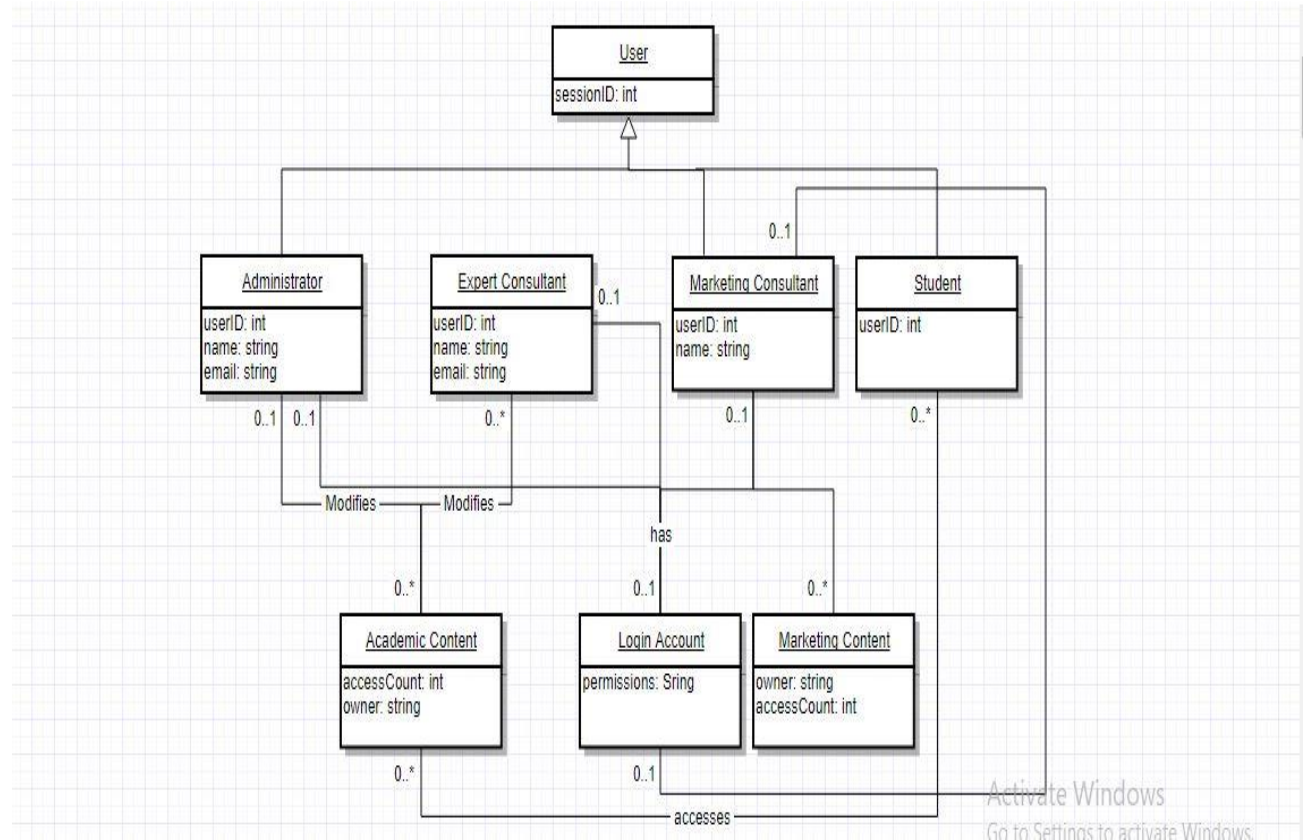| Name	Student Number
Daniel Rocha	u14347980
Lebogang Ntlatleng	u15016715
Fiwa Lekhulani	u15187145
Oluwatosin Botti	u13208642
Tlou Lebelo	u15209190
Lesego Mabe	u15055214

From left to right:

Tlou Lebelo, Oluwatosin Botti, Fiwa Lekhulani, Daniel Rocha, Lebogang Ntlatleng, Lesego Mabe

High level description

The Thutong Site Learning Centre is an initiative aimed at improving the Math and Science skills of High school students. It will start as a website where any student from any grade can access academic content such as past papers, study guides and video content provided by expert consultants. The site will be modelled to accommodate students from any grade in high school, and have the functionality to allow students to revisit concepts that they may have struggled with in previous grades, and possibly stay ahead by visiting topics that are yet to be discussed in class.
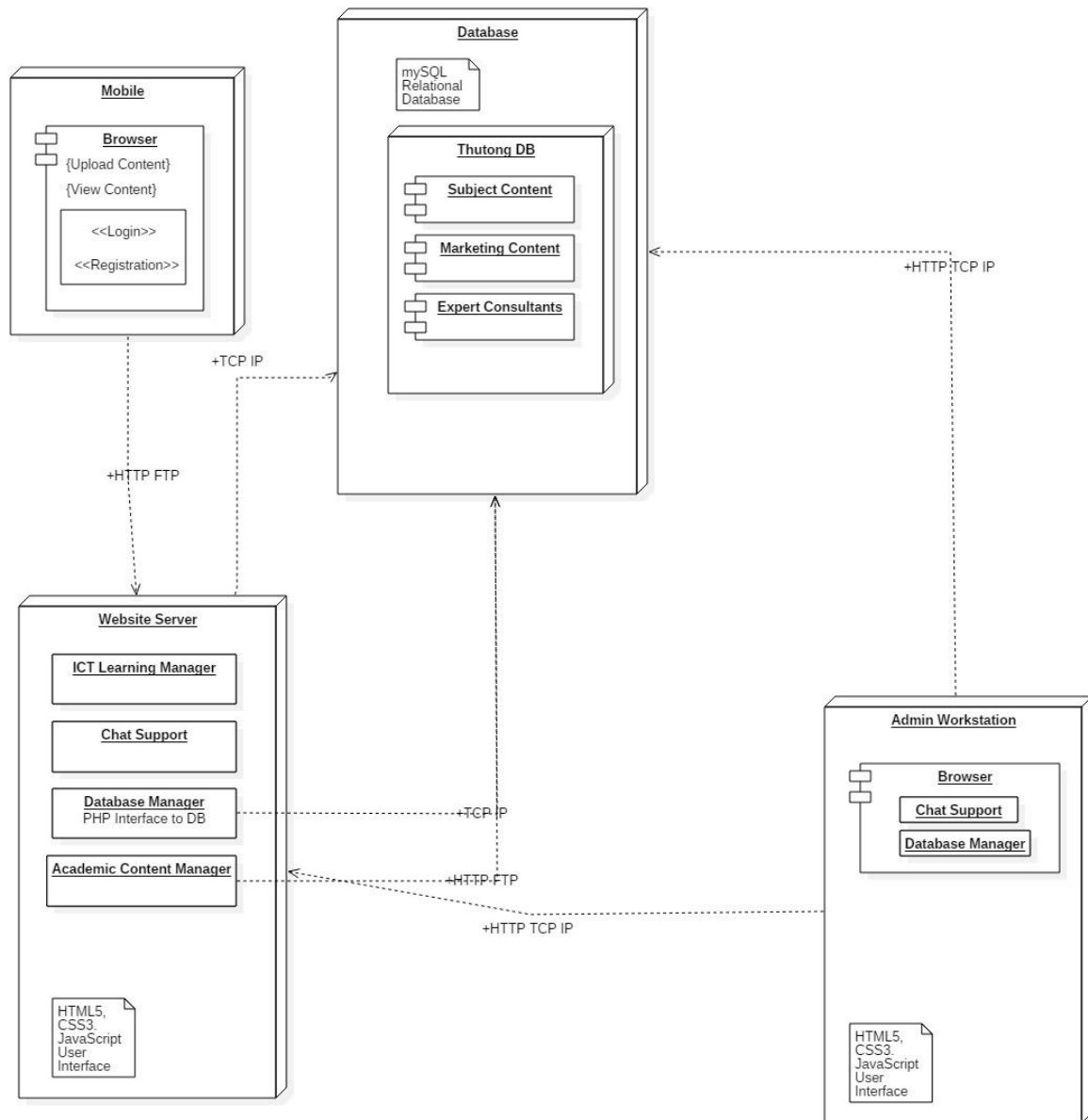
Domain model

Technologies

On the layout and for user friendliness, HTML, Bootstrap, JQuery, CSS and other scripting languages will be used for animation, mobile friendliness and other features. PHP will be used along with Ajax to issue queries to a database (whether either MySQL database or MongoDB will depend on which is suitable given the constraints and specifications).

Website Deployment model

Mobile

Browser

{Upload Content}

{View Content}

<<Login>>

<<Registration>>

Database

mySQL Relational Database

Thutong DB

Subject Content

Marketing Content

Expert Consultants

+HTTP TCP IP

+TCP IP

+HTTP FTP

Website Server

ICT Learning Manager

Chat Support

Database Manager
PHP Interface to DB

Academic Content Manager

HTML5, CSS3. JavaScript User Interface

+TCP IP

+HTTP FTP

+HTTP TCP IP

Admin Workstation

Browser

Chat Support

Database Manager

HTML5, CSS3. JavaScript User Interface

Development methodology

Role of Client:

The client will be very crucial in developing this site to meet the needs of the target audience, being the student. They (clients) will need to be able to communicate with us effectively, efficiently and give a clear description of the constraints according to the target audience's expectation. Thus the clients will need to be able to respond quickly to any queries regarding misconceptions or ambiguity that might be encountered by the development team.

Group development process

As a group we are to meet on weekly basis, two or three times depending on how hectic member's schedules are. In these meetings, topics will include the discussion of our progress, any problems a team member has encountered during the process of completing their assigned tasks are discussed here. Other sessions will be to merely work in the same space for segments that are closely related, otherwise we will use GitHub for productive collaboration and to keep one another posted with on each members progress.

Team member details

Name	Skills and Knowledge
Daniel Rocha	Interface Design Project design mapping and organization Android Studio Web Development: HTML, CSS, Bootstrap, JavaScript, PHP, AJAX, JQuery, JSON
Lebogang Ntlatleng	Android Studio Web Development: HTML, CSS, Bootstrap, JavaScript, PHP, AJAX, JQuery, JSON, AngularJS Java, C++ SQL and MongoDB Networks (novice)
Fiwa Lekhuleni	Backend Programming C++, Java, Python SQL and MongoDB Graphics (novice) AI (novice)
Oluwatosin Botti	C++, C#, Java Web Development: HTML, CSS, Bootstrap, JavaScript, PHP, AJAX, JQuery, JSON
Tlou Lebelo	Backend programming C++, Java AI Big Data analystics PHP, JavaScript
Lesego Mabe	Networks Java, C++ AI (novice) Web Development: HTML, CSS, Bootstrap, JavaScript, PHP, AJAX, JQuery, JSON

Skills implementation

Skills relating to backend programming and high-level languages will be used for implementing files for communication with databases and the servers, validating user credentials in terms of expert consultants, marketing consultants and the administrator, and to sanitize any input provided to the site to prevent for any form of attack. Front end/ web-design skills will be used for the sites layout and user-friendliness since we may be dealing with a vast majority of students unfamiliar with technology. Programming language skills combined with database management skills can be combined to manage user login and details and also be used with the LPR for additional authentication.

Shortcomings

Shortcoming include insufficient knowledge and skills regarding specific elements of the product itself such as web server protocols and how connection to the server is maintained. This will be solved by conducting research on the topics, interact with client to get all information they have on hand and ensure we work according to their preferences and ultimately learn and grow to be able to make those elements work successfully. Collaboration difficulties can be mediated by frequent dialogues either via meeting or discussion forums to ensure that we all work as a collective and at the same time.