**CS2102 Project**

**Module Bidding System**

**Group 9**

**Members:  
Cheong Ke You, (admin no)**

**Lu Yanning, (admin no)**

**Tan Teck Li, A0111770R**

**Chan Jun Wei, (admin no)**

**Chua Chin Siang, (admin no)**

**Web server, server page language and database management**

**system used (whether use Zone or else)**

Web server used is PHP.   
For website language used is html and php.   
Query language used is SQL.  
Both zone and local are used to test and run.

**ER diagram**

**Schemas**

CREATE TABLE modules (  
moduleCode VARCHAR (16),  
moduleName VARCHAR (128),  
PRIMARY KEY (moduleCode)  
);

CREATE TABLE prerequisite (  
andId INT CHECK (andId = 0 OR andId = 1),  
module VARCHAR (16),  
requiredModule VARCHAR (16),  
FOREIGN KEY (module) REFERENCES modules(moduleCode),  
FOREIGN KEY (requiredModule) REFERENCES modules(moduleCode),  
PRIMARY KEY (andId, module, requiredModule));

CREATE TABLE preclusion(  
module VARCHAR (16),  
excludedModule VARCHAR (16),  
FOREIGN KEY (module) REFERENCES modules(moduleCode),  
FOREIGN KEY (excludedModule) REFERENCES modules(moduleCode),  
PRIMARY KEY (module, excludedModule)  
);

CREATE TABLE modulesTime (  
moduleCode VARCHAR (16),  
startTime INT   
CHECK(  
(FLOOR(startTime/100)<=23) AND   
(FLOOR(startTime/100)>=0) AND   
(MOD(startTime,100)>=0) AND   
(MOD(startTime,100)<=59)),  
endTime INT   
CHECK(  
(FLOOR(endTime/100)<=23) AND   
(FLOOR(endTime/100)>=0) AND   
(MOD(endTime,100)>=0) AND   
(MOD(endTime,100)<=59)),  
day CHAR (3)   
CHECK (  
lower(day) LIKE ('mon') OR  
lower(day) LIKE ('tue') OR  
lower(day) LIKE ('wed') OR  
lower(day) LIKE ('thu') OR  
lower(day) LIKE ('fri') OR  
lower(day) LIKE ('sat') OR  
lower(day) LIKE ('sun') ),  
maxVacancy INT NOT NULL,  
FOREIGN KEY (moduleCode) REFERENCES modules (moduleCode) ON DELETE CASCADE,  
PRIMARY KEY (moduleCode, startTime, endTime, day)  
);

CREATE TABLE users (  
matricNo VARCHAR(10),  
admin INT DEFAULT '0' CHECK (admin = 0 OR admin = 1),  
name varchar(64) NOT NULL,  
points INT NOT NULL,  
openId INT DEFAULT '1' CHECK (openId = 0 OR openId = 1),  
password CHAR (64),  
PRIMARY KEY (matricNo)  
);

CREATE TABLE passed (  
matricNo VARCHAR(10),  
moduleCode VARCHAR(16),  
FOREIGN KEY (matricNo) REFERENCES users(matricNo),  
FOREIGN KEY (moduleCode) REFERENCES modules(moduleCode),  
PRIMARY KEY (matricNo, moduleCode)  
);

CREATE TABLE selected(  
matricNo VARCHAR(10),  
moduleCode VARCHAR(16),  
startTime INT,  
endTime INT,  
day CHAR(3),  
bidpoints INT NOT NULL,  
bidTime TIMESTAMP NOT NULL,  
success INT DEFAULT '0' NOT NULL CHECK (success = 0 OR success = 1),  
FOREIGN KEY (matricNo) REFERENCES users(matricNo),  
FOREIGN KEY (moduleCode, startTime, endTime, day) REFERENCES modulesTime(moduleCode, startTime, endTime, day),  
PRIMARY KEY (matricNo, moduleCode, startTime, endTime, day)  
);

**Chosen sample and representative SQL code (indicate the SQL code and the function of service it helps to implement)**

* “SELECT \* FROM modules order by moduleCode”  
  The above statement helps to retrieve all the available modules data and display out at the administrator page.
* "INSERT INTO modules values('$varmoduleCode','$varmoduleName')"

The above statement helps to add new module data base on module code and module name into the database.

* “DELETE FROM modulesTime where moduleCode='$pieces[0]'and startTime='$pieces[1]' and endTime='$pieces[2]' and day='$pieces[3]'"

The above statement removes a data or t-uple from modulesTime, which is a table where module available timeslots are kept, based on the array $piece[], which consists of many values.

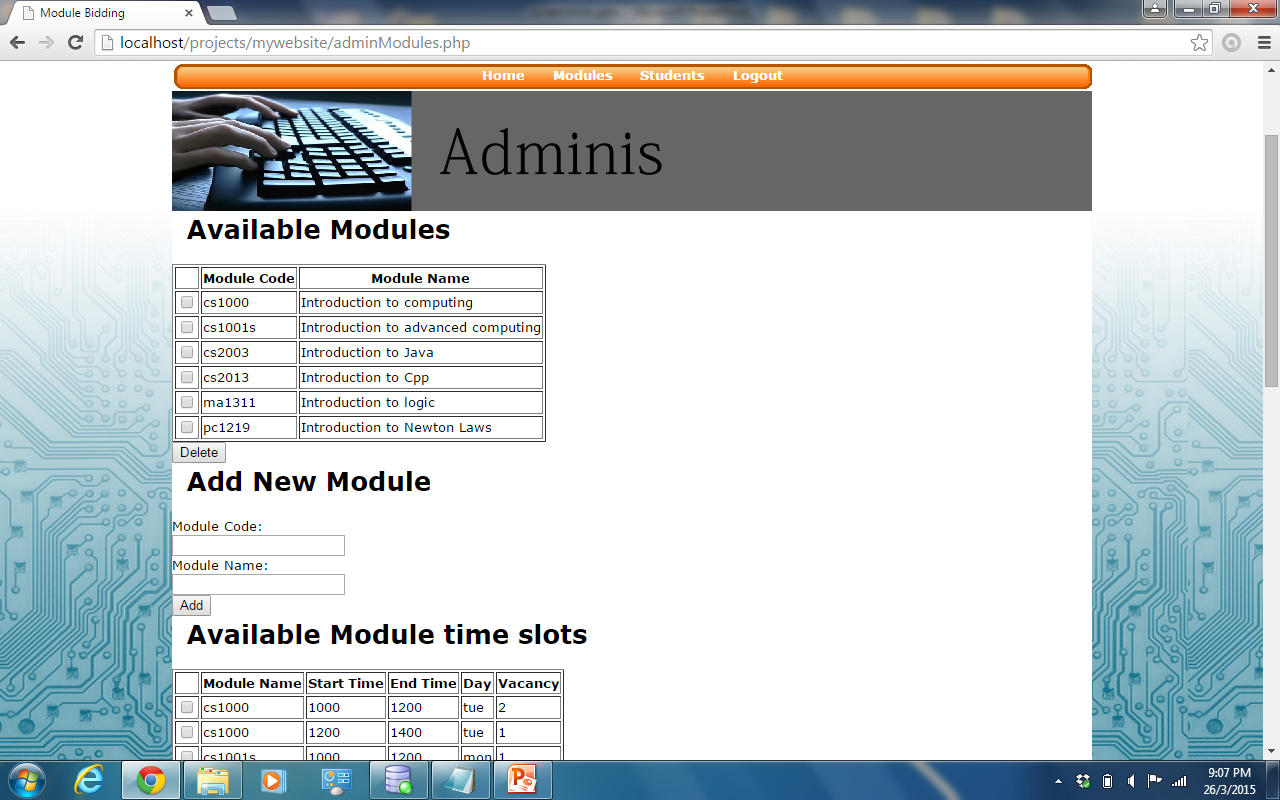
* …

**Web interface screenshots**

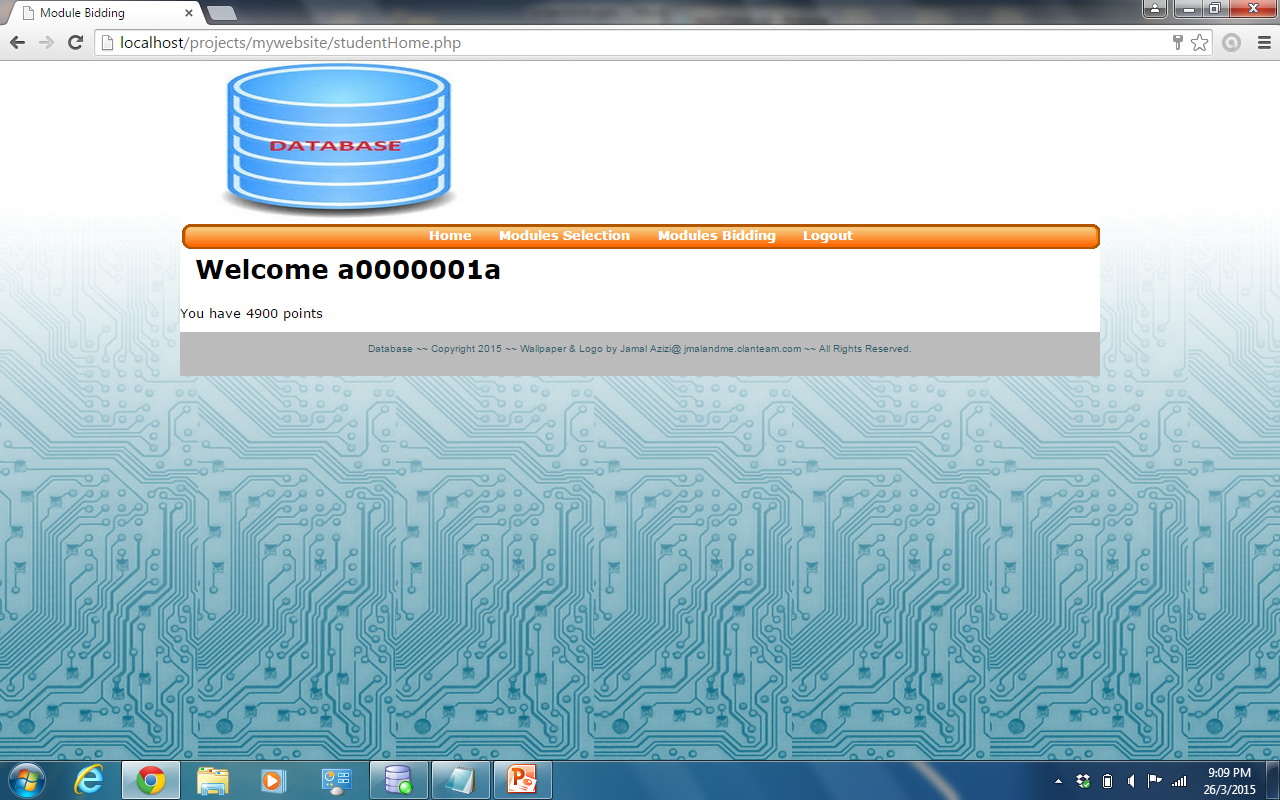
**Admin 1**

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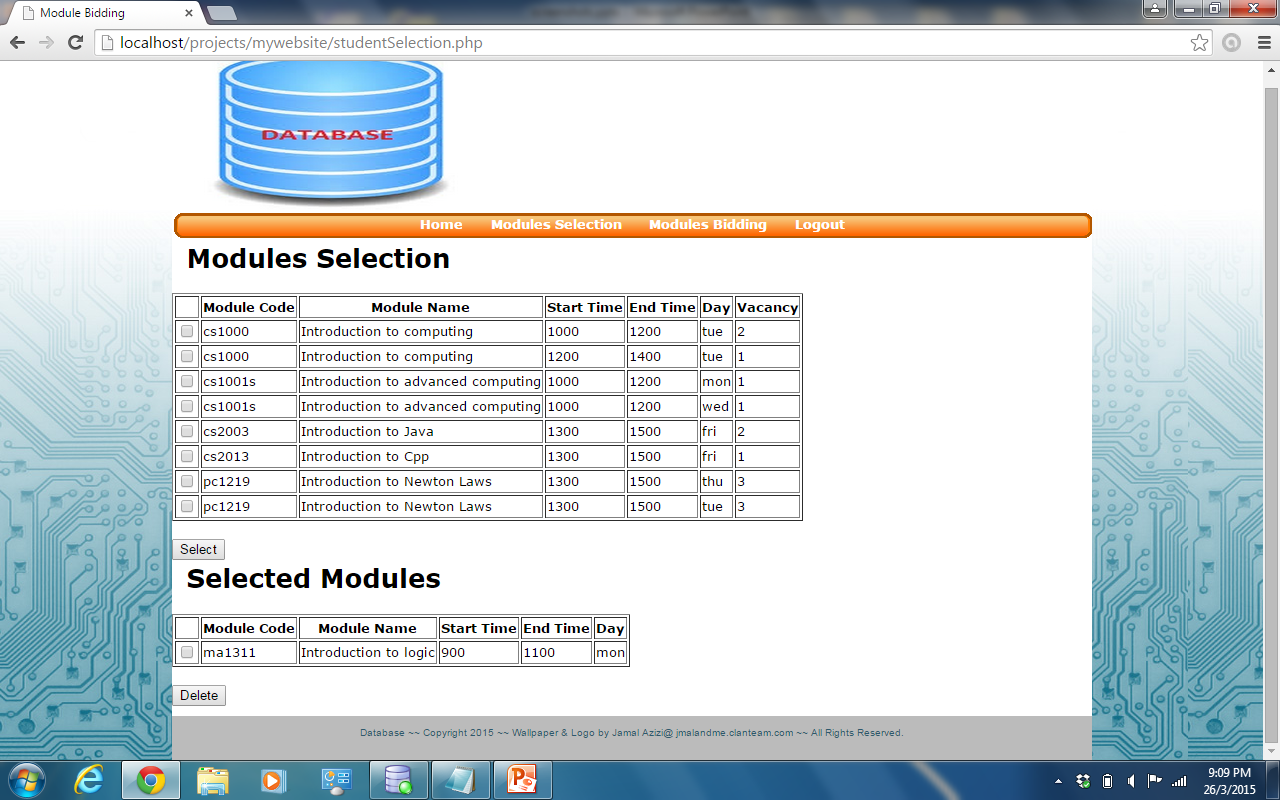
**Admin 2**

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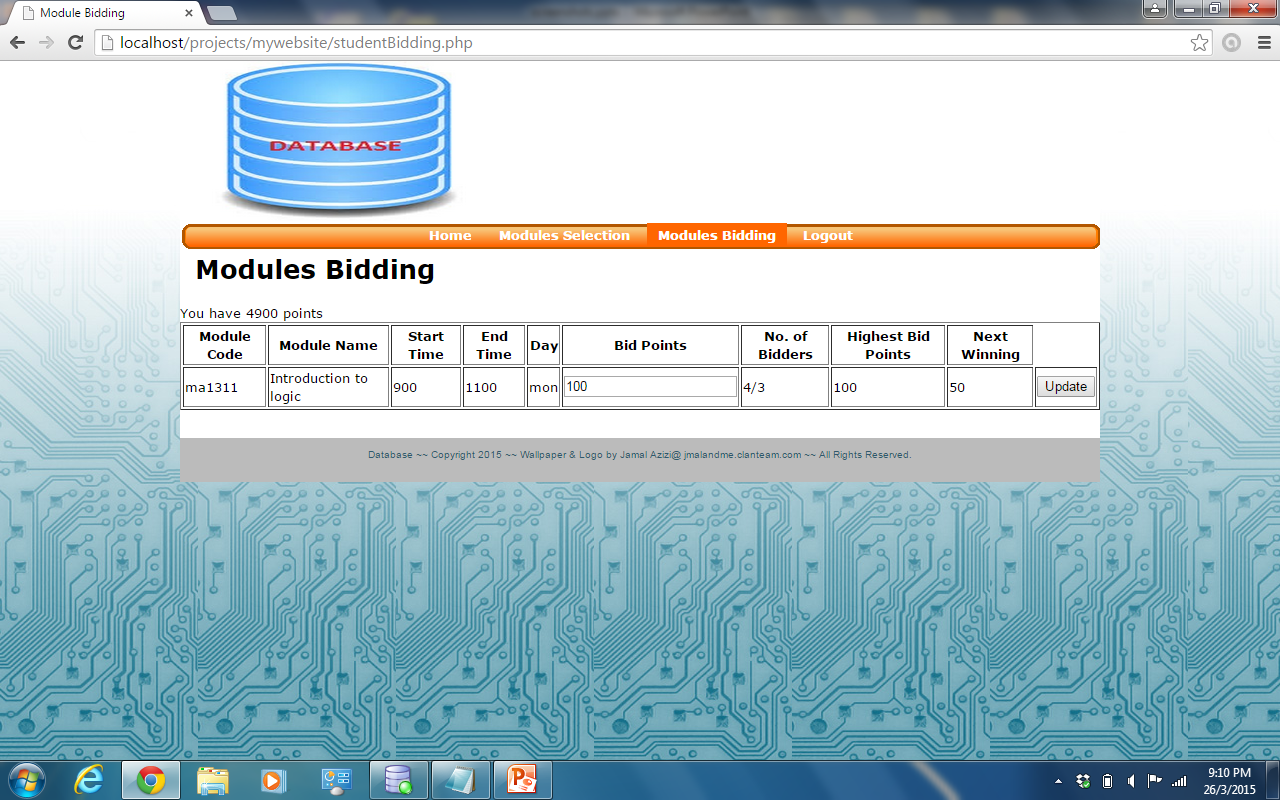
**Student 1**

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**Student 2**

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**Student 3**

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