CHAPTER 5

SYSTEM IMPLEMENTATION

5.1.XAMPP

5.1.1. Introduction to XAMPP

XAMPP is a freeware and an open source cross platform web server package. This package contains the Apache HTTP server, MySQL Database, and programming languages as the interpreters such as PHP and Perl Programming language. XAMPP is compatible for Microsoft Windows, Linux, Solaris, and Mac OS X.

5.1.2. System Requirements for Running XAMPP

To run this project, the developed application only needs 3 application in the XAMPP package which is PHP language, MySQL database, and Apache HTTP server. Because of this reason, the system requirement for running the application is similar with the system requirements for running those 3 applications which are:

- 64 MB RAM
- 160 MB free fixed disk
- Windows 98/ME/XP
- Windows NT, 2000, XP Profesional [Recommended]

The thesis team is using Windows Vista as the Operating system and XAMPP can also running very well on Windows Vista

5.1.3. XAMPP Installation

- The first step of the installation is to double click the icon for XAMPP installation.

figure 49: step 01 for XAMPP installation

- A window will come up asking for the verification before the installation begin, click run.

figure 50: step 02 for XAMPP installation

- There will be a question asking for the language that is going to be used.

figure 51: step 03 for XAMPP installation

- Another window will come up, click next.

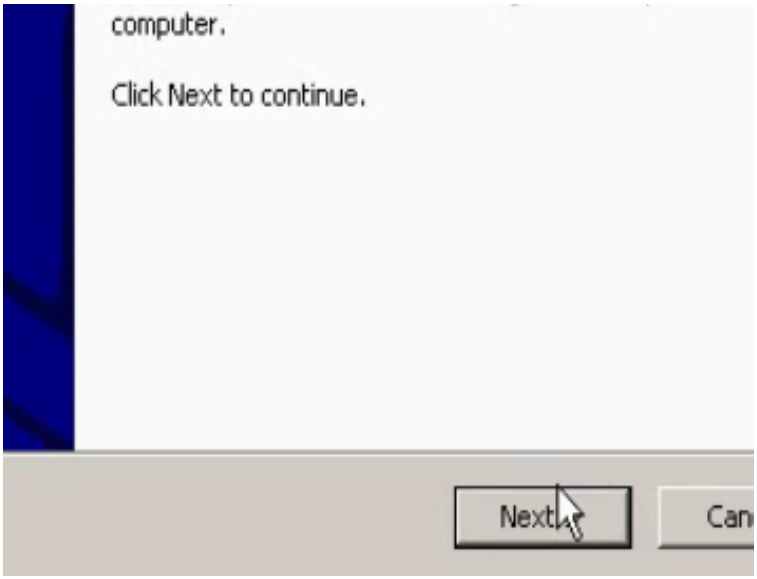

figure 52: step 04 for XAMPP installation

- Choose the directory for the XAMPP application. The default one will be C\xampp\

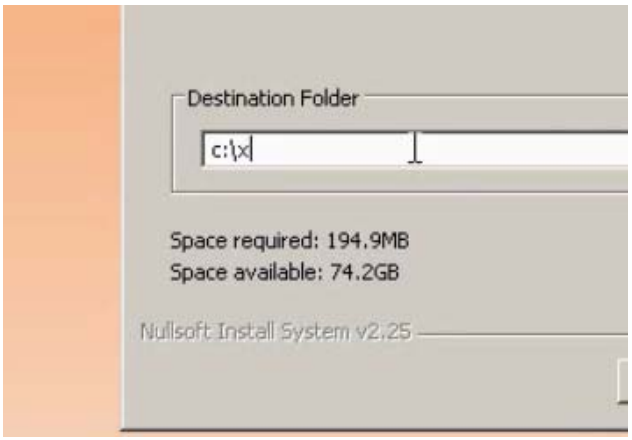

figure 53: step 05 for XAMPP installation

- Another window will come up. The developed application needs Apache and MySQL, so please check both of them then click install.

figure 54: step 06 for XAMPP installation

- Installation Progress

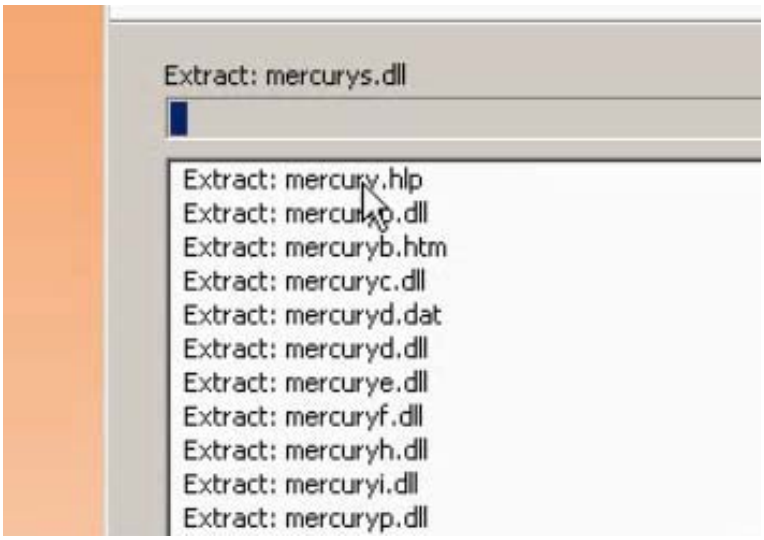

figure 55: step 07 for XAMPP installation

- After the installation completed, there will be a window likes the one below, and asking for running the XAMPP control panel. Click yes.

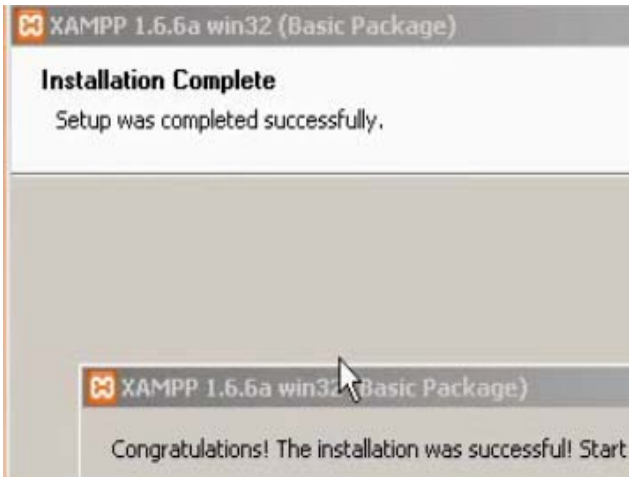

figure 56: step 08 for XAMPP installation

- The XAMPP Control Panel will come up and there will be status for Apache and MySQL.

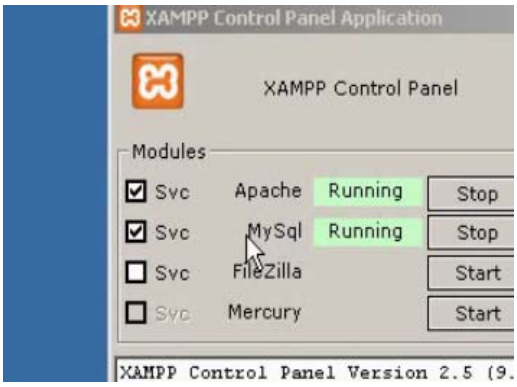

figure 57: step 09 for XAMPP installation

- Congratulations, the installation is completed and to the application, please open a browser and type http://localhost/xampp/ and the browser will show a page like this:

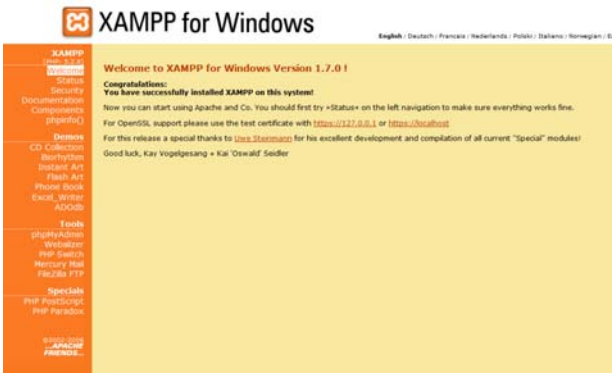

figure 58: 58 step 10 for XAMPP installation

- You are ready to use the XAMPP Application

5.1.4. Installation for Developed Application

- Open the CD of the application and there will be a folder called “smartergeneration” and a file called “smartergeneration.sql”

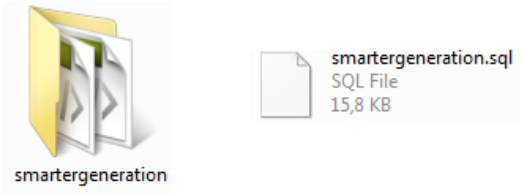

figure 59: smartergeneration installation step 1

- Copy the smartergeneration folder to a folder called “htdocs” in your XAMPP installation directory.

- Open the browser and type on the address bar http://localhost/phpmyadmin/ then create a new database called “smartergeneration” and click create.

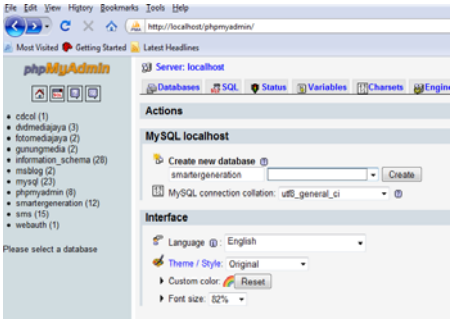

figure 60: smartergeneration installation step 2

- After created database, click import.

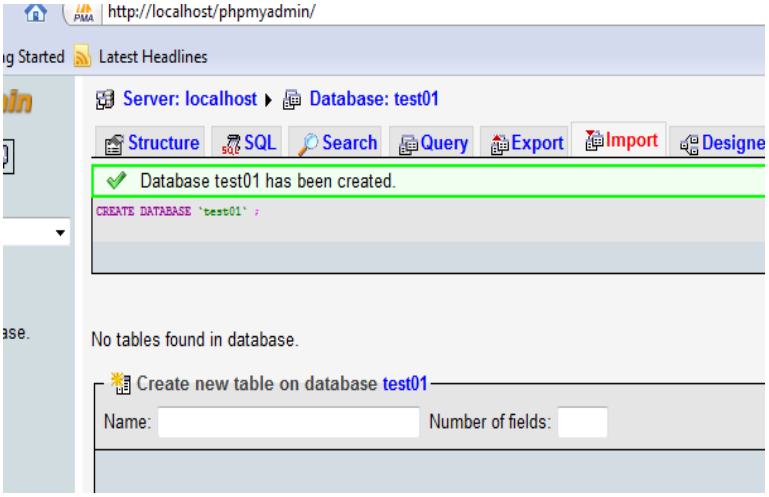

figure 61: smartergeneration installation step 3

- Browse for the smartergeneration.sql file on the installation CD for smartergeneration.com then click go.

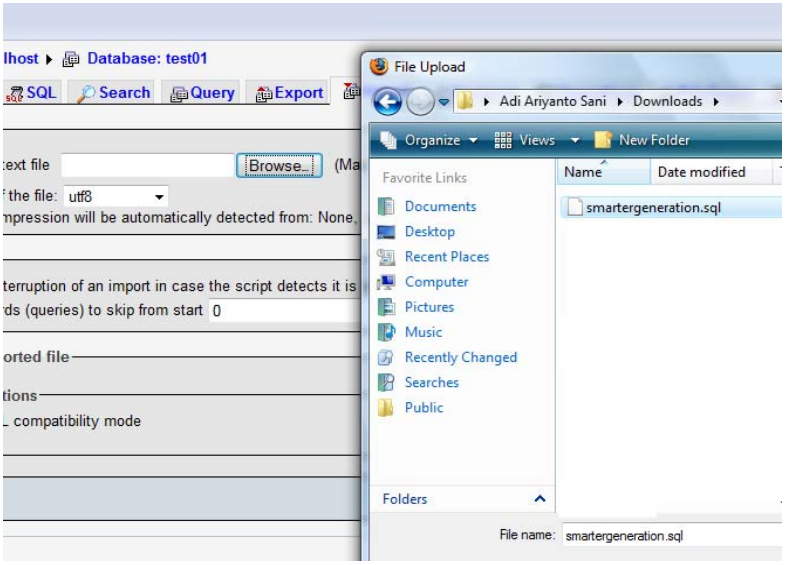

figure 62: smartergeneration installation step 4

- Now the application is ready to use. To start the application just type on the address bar in the browser: http://localhost/smartergeneration/

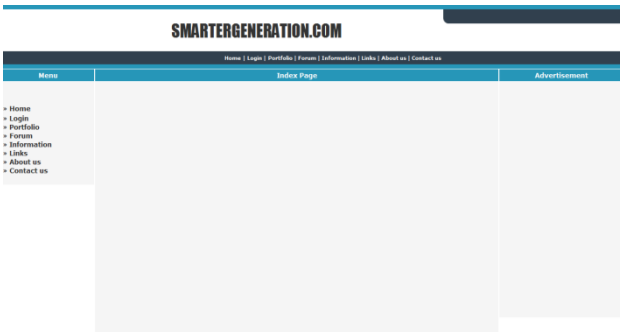

figure 63: smartergeneration installation step 5

- Enjoy the application.

5.2.Layout

5.2.1. Administrator

- **Admin Index**

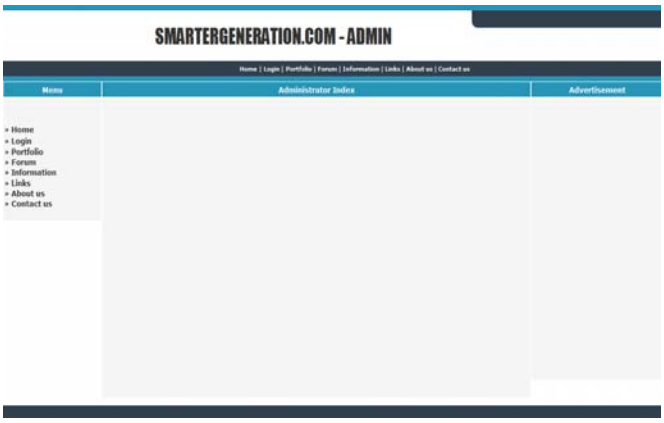

figure 64: admin index page

- **Admin Login Page**

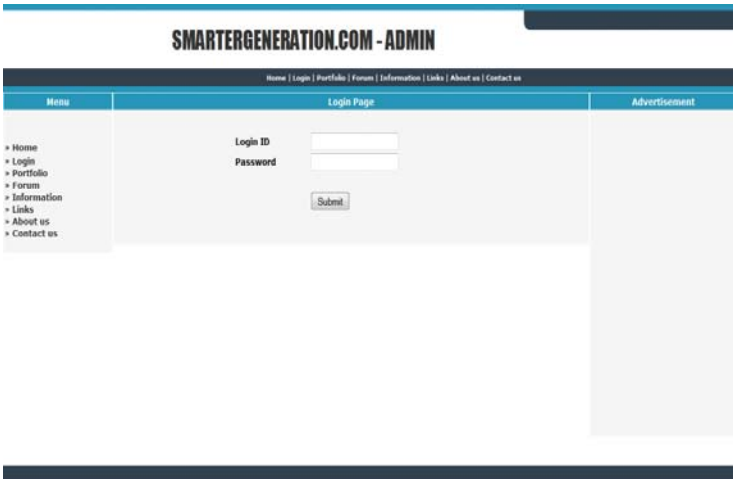

figure 65: admin login page

- **Admin Control Panel Page**

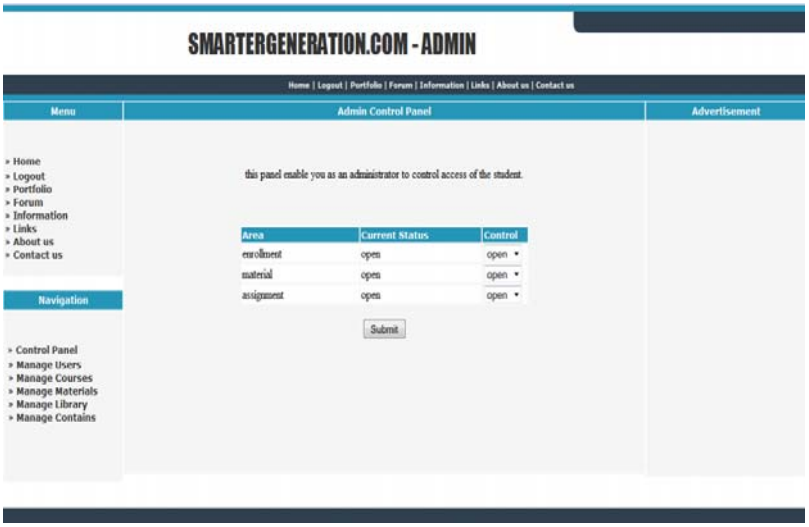

figure 66: admin control panel page

- **Admin Manage User Page**

figure 67: admin manage user page

- **Admin Manage Student Page**

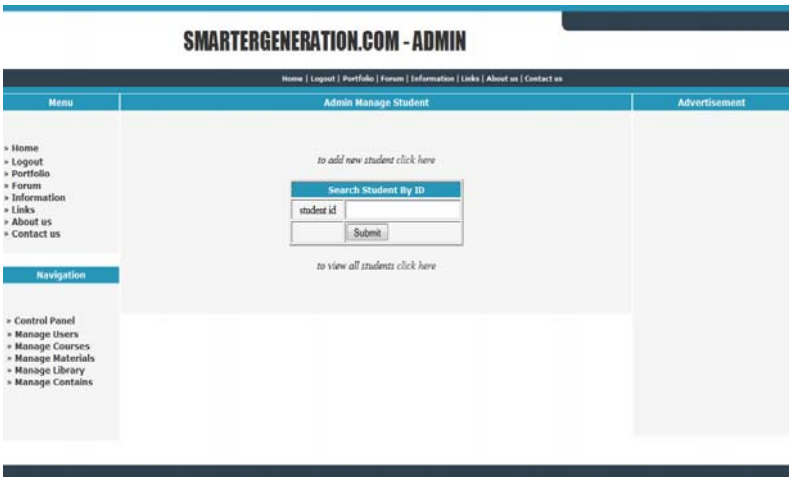

figure 68: admin manage student page

- **Admin Add Student Page**

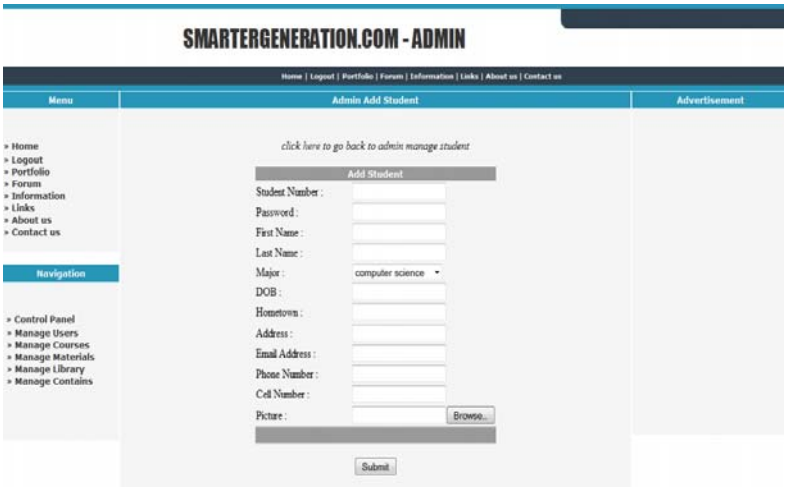

figure 69: admin add student page

- **Admin Edit Student Page**

figure 70: admin edit student page

- **Admin View All Student Page**

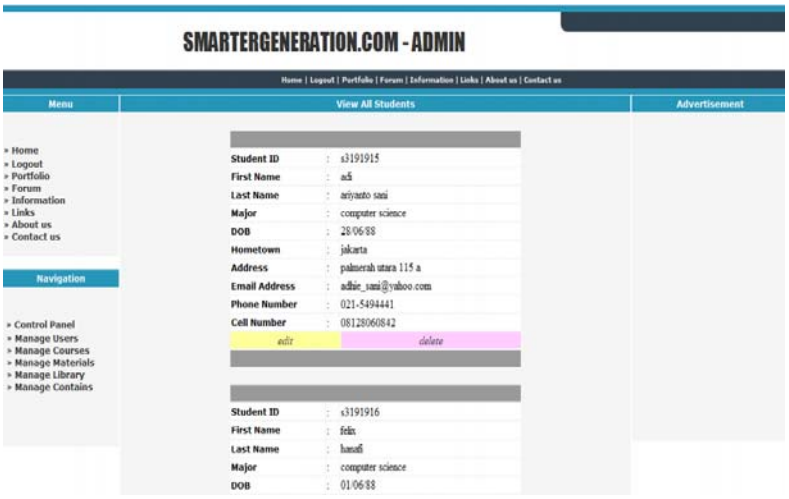

figure 71: admin view all student page

- **Admin Manage Lecturer Page**

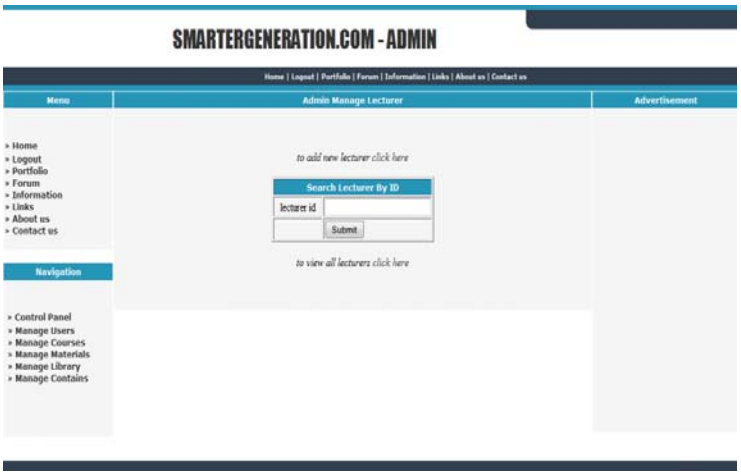

figure 72: admin manage lecturer page

- **Admin Add Lecturer Page**

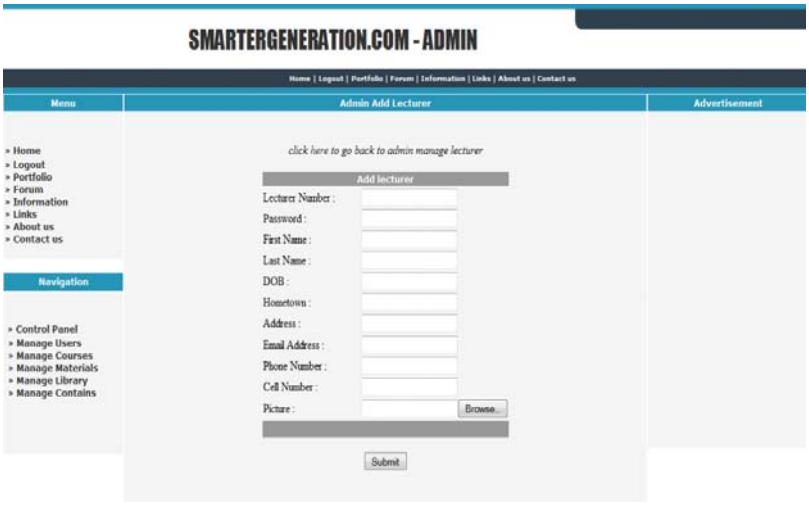

figure 73: admin add lecturer page

- **Admin Edit Lecturer Page**

figure 74: admin edit lecturer page

- **Admin View All Lecturer Page**

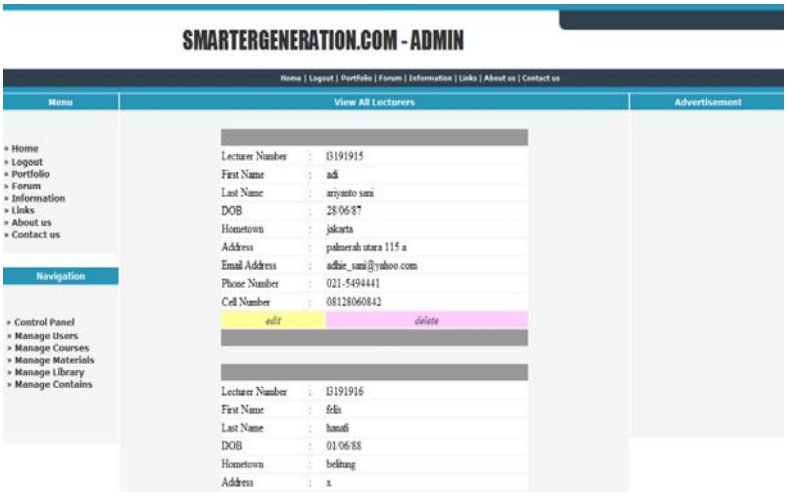

figure 75: admin view all lecturer page

- **Admin Manage Courses Page**

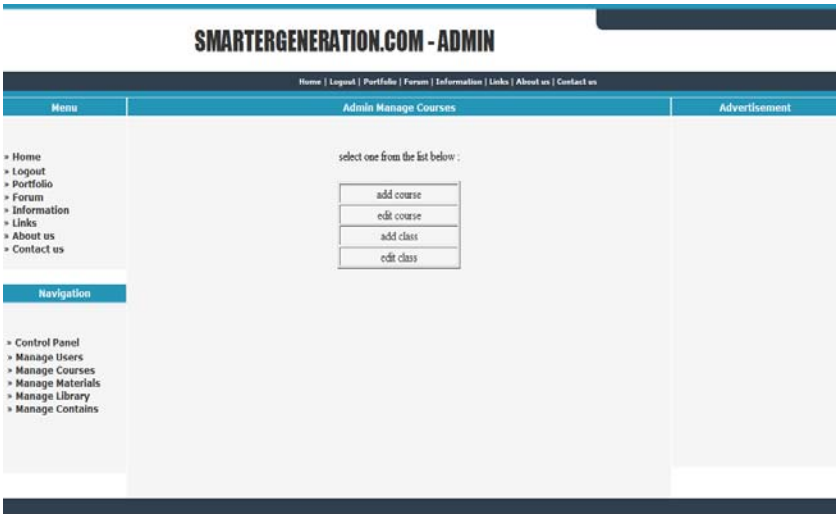

figure 76: admin manage courses page

- **Admin Add Course Page**

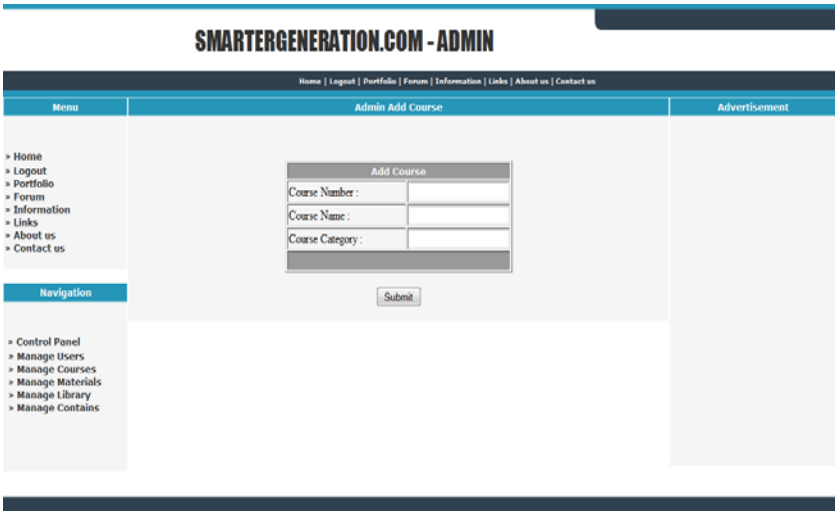

figure 77: admin add courses page

- **Admin Manage Course Page**

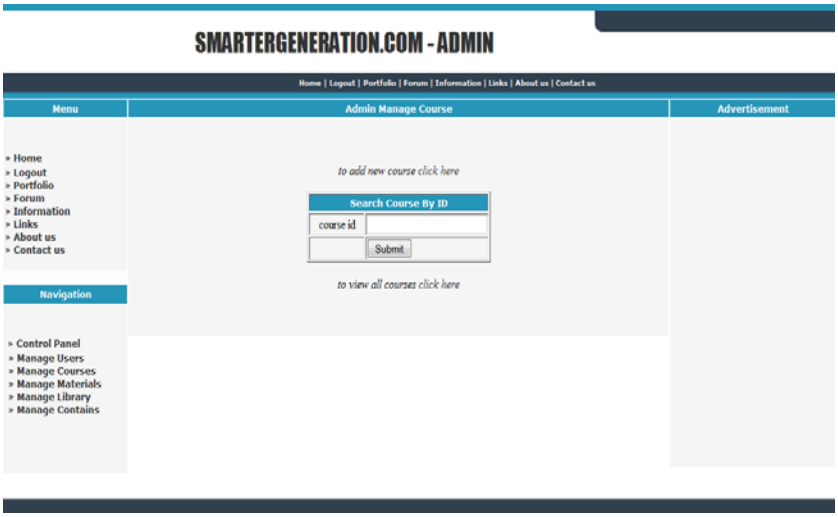

figure 78: admin manage course page

- **Admin Edit Course Page**

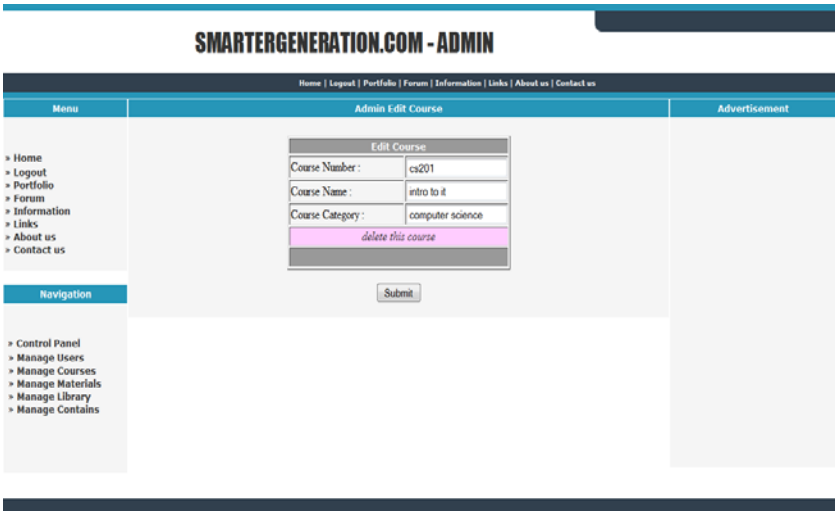

figure 79: admin edit course page

- **Admin View All Courses Page**

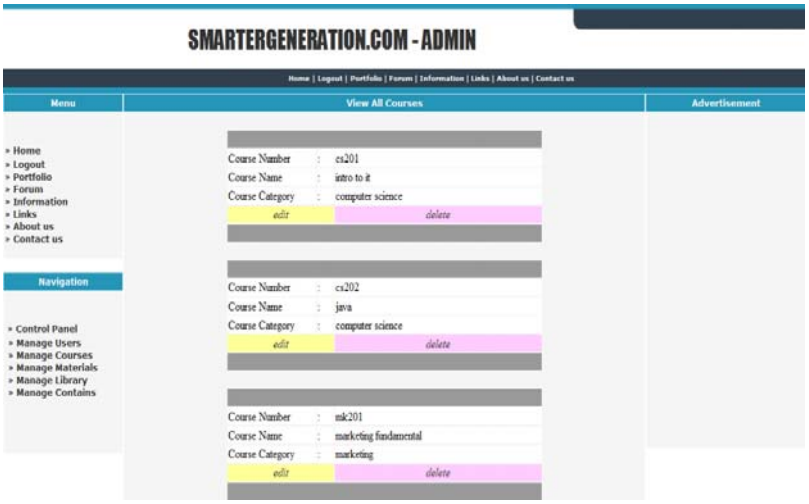

figure 80: admin view all courses page

- **Admin Add Class Page**

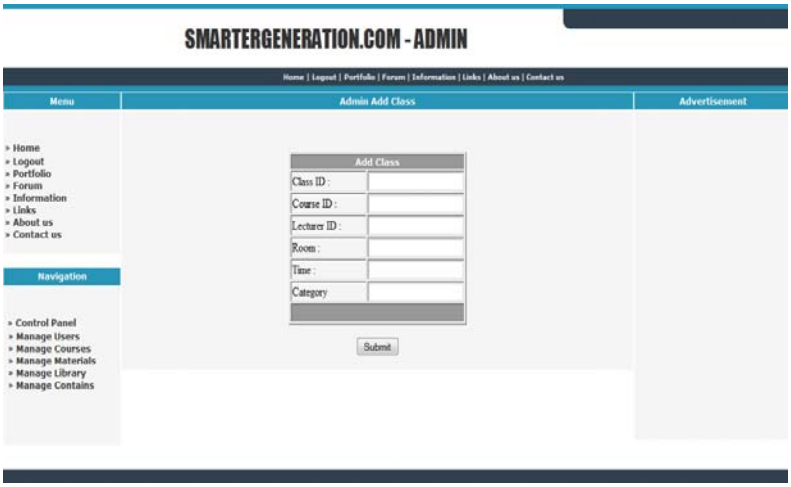

figure 81: admin add class page

- **Admin Manage Class Page**

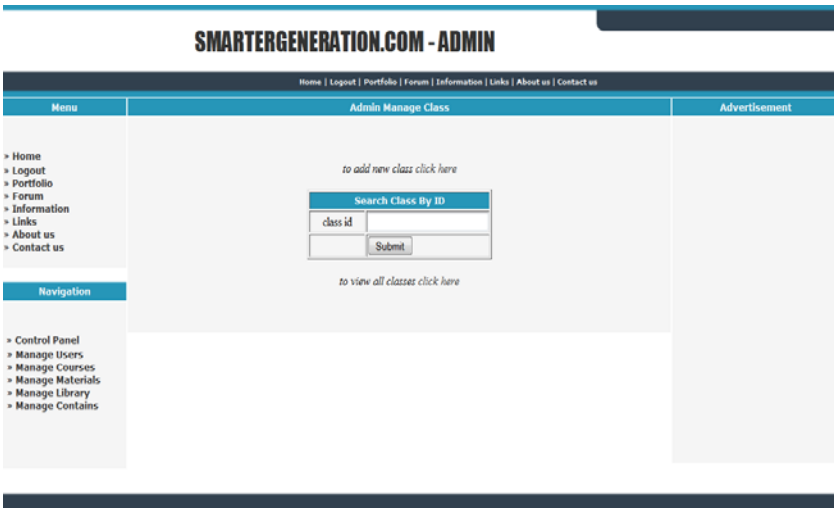

figure 82: admin manage class page

- **Admin Edit Class Page**

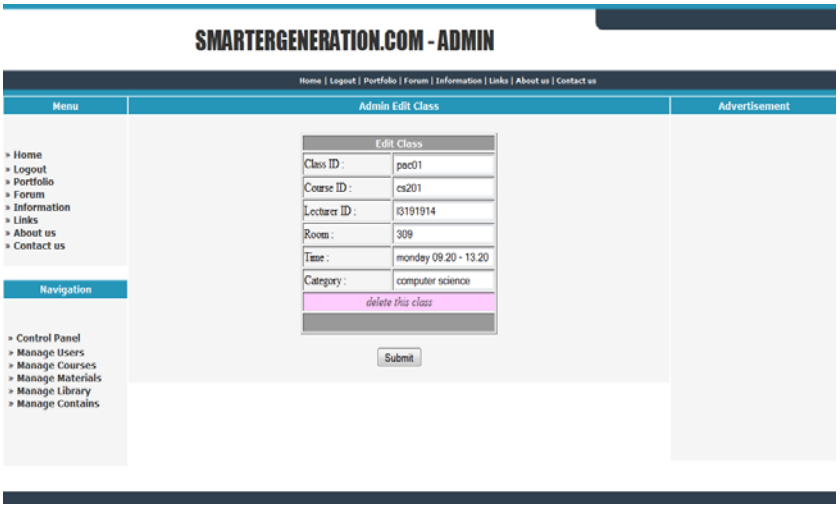

figure 83: edit class page

- **Admin View All Classes Page**

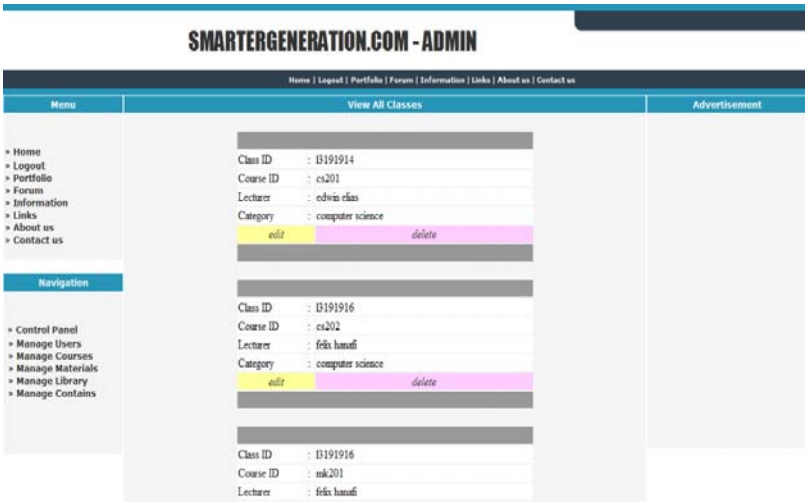

figure 84: admin view all classes page

- **Admin Manage Materials Page**

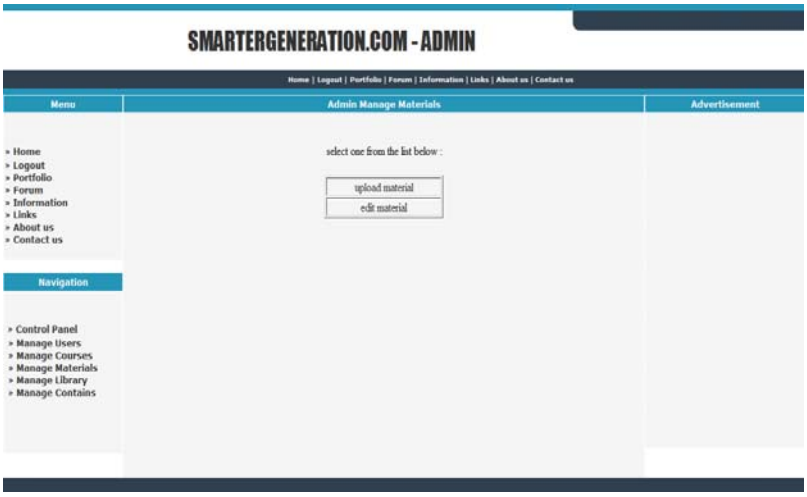

figure 85: admin manage materials page

- **Admin Upload Material Page**

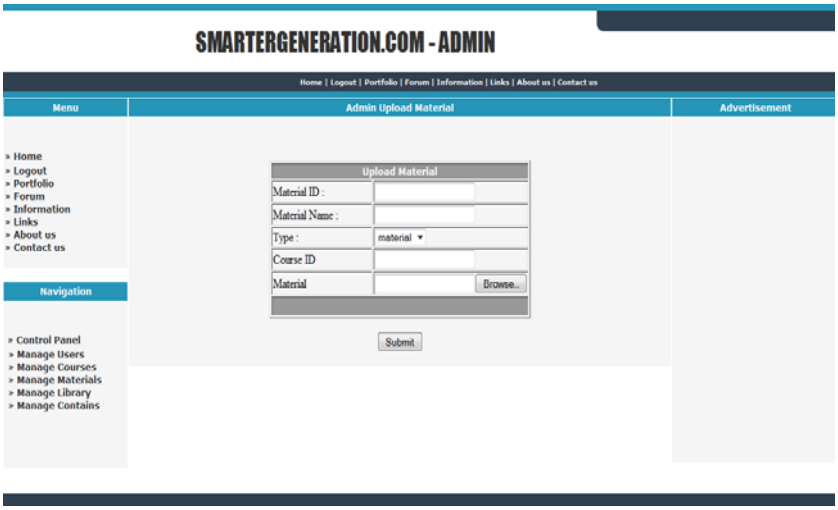

figure 86: admin upload material page

- **Admin Manage Material Page**

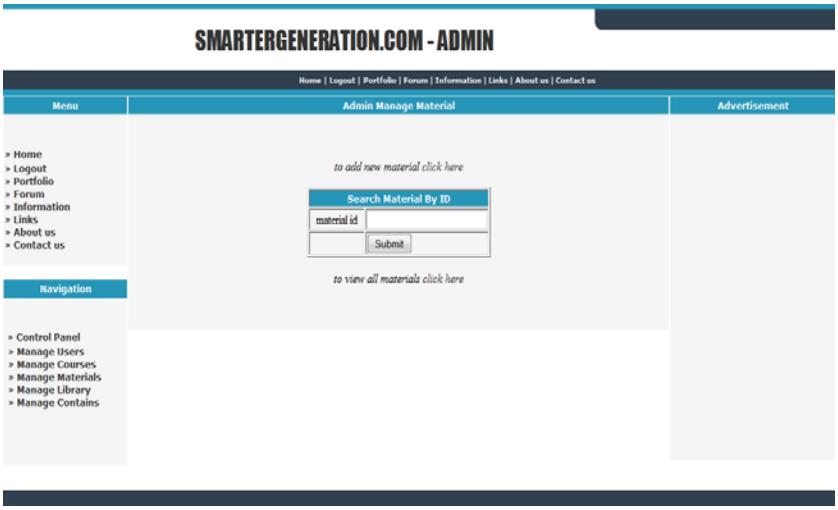

figure 87: admin manage material page

- **Admin Edit Material Page**

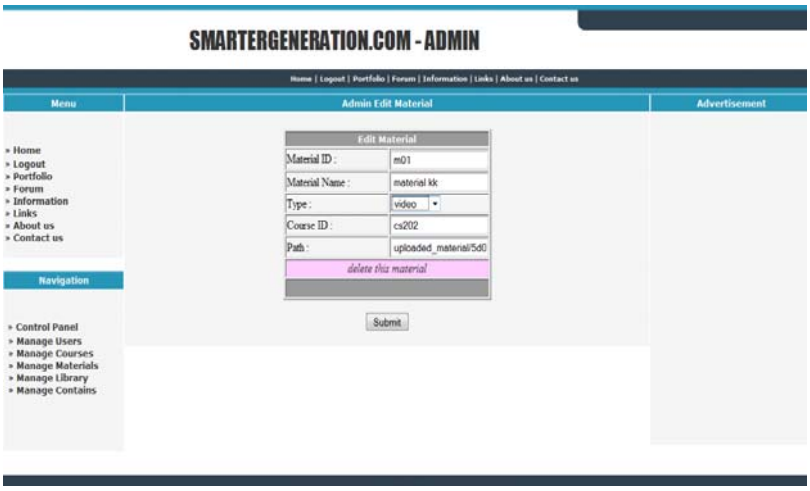

figure 88: admin edit material page

- **Admin View All Materials Page**

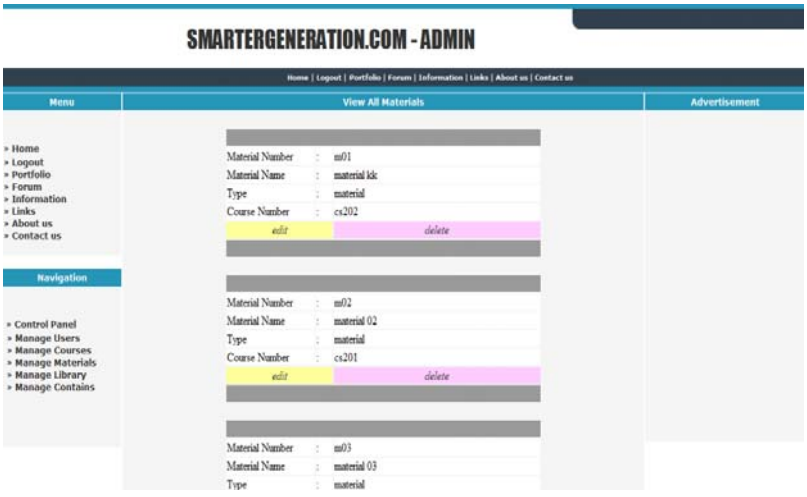

figure 89: admin view all materials page

- **Admin Library Page**

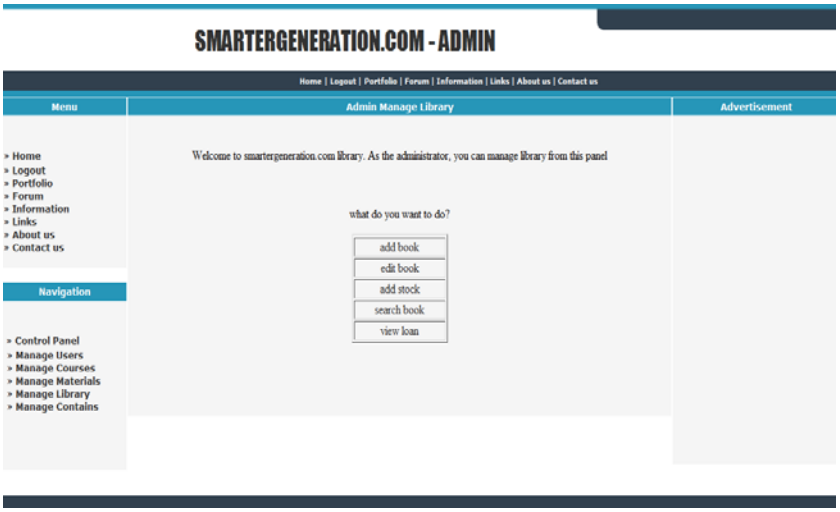

figure 90: admin library page

- **Admin Library – Add Book Page**

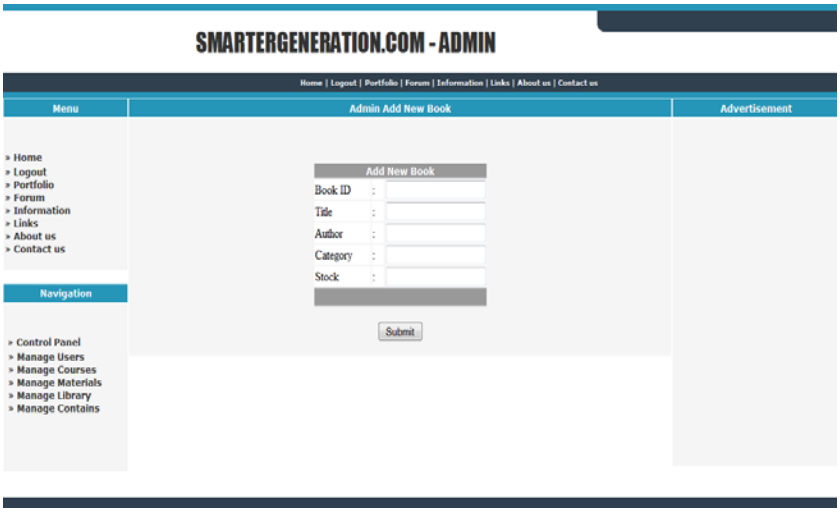

figure 91: admin add book page

- **Admin Library – Manage Book Page**

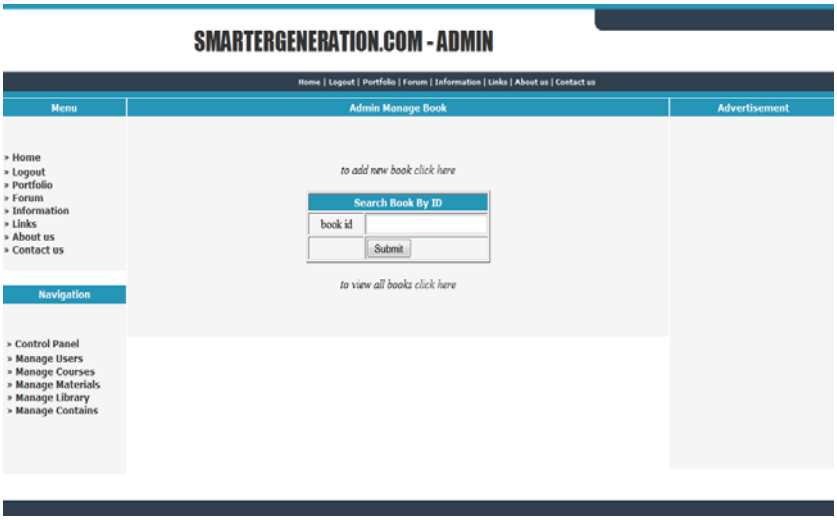

figure 92: admin manage book page

- **Admin Library – Edit Book Page**

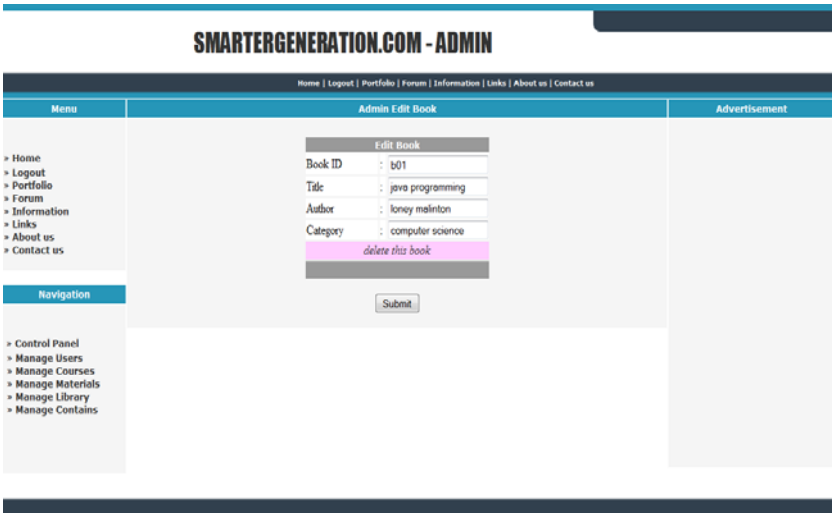

figure 93: admin edit book page

- **Admin Library – View All Books Page**

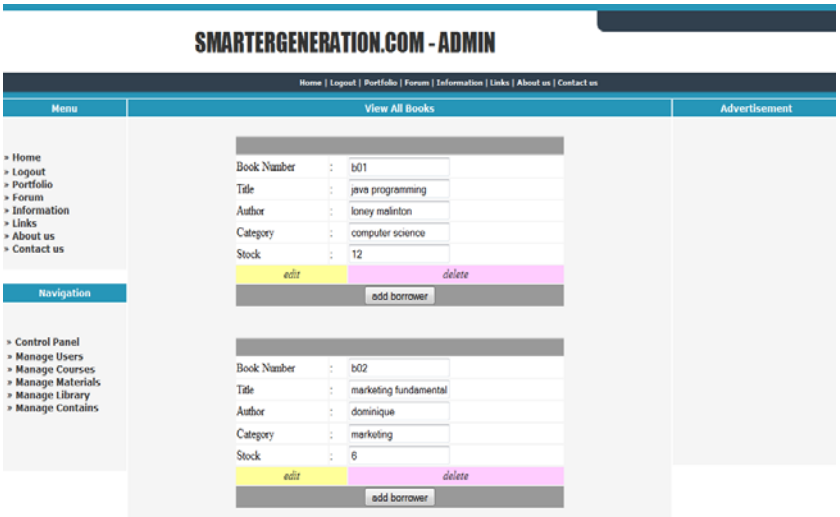

figure 94: admin view all books page

- **Admin Library – Update Stock Page**

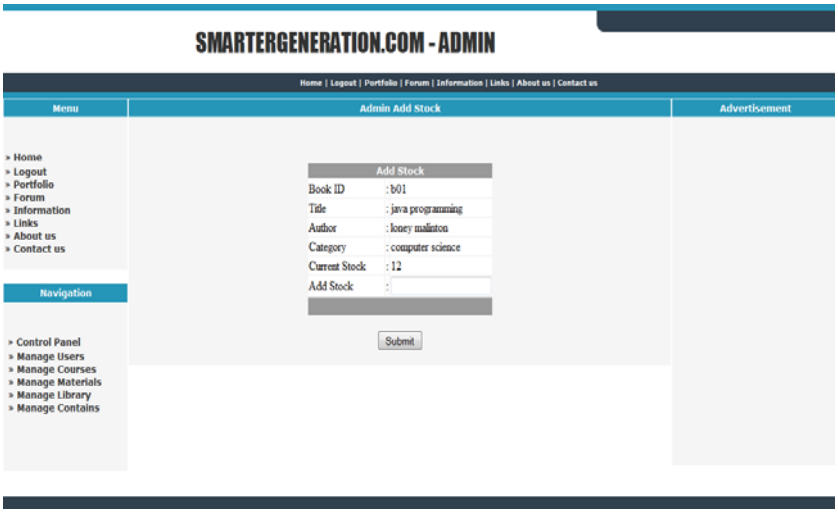

figure 95: admin update stock page

- **Admin Library – Search Book Page**

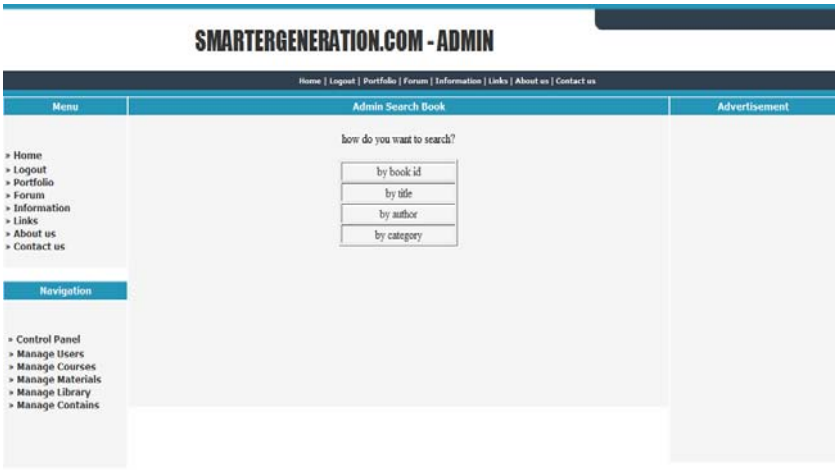

figure 96: admin search book page

- **Admin Library – Search Book by Selected Key Page**

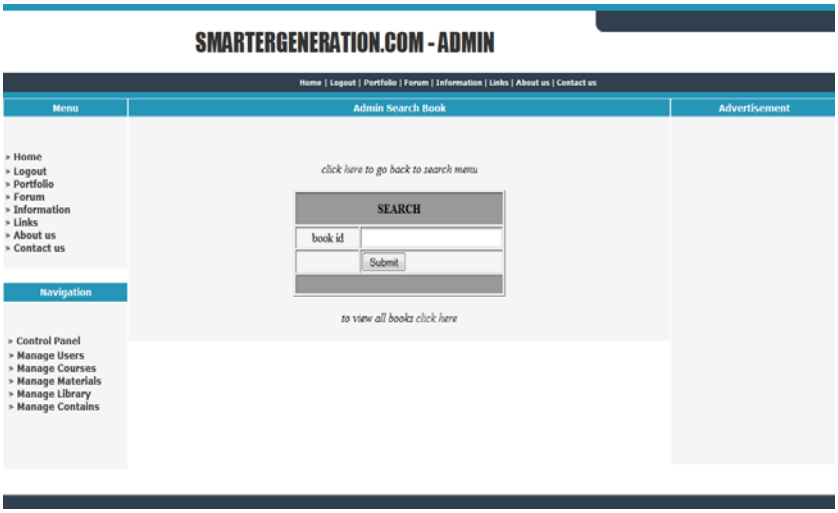

figure 97: admin search book by selected key page

- **Admin Library – Search Book Result Page**

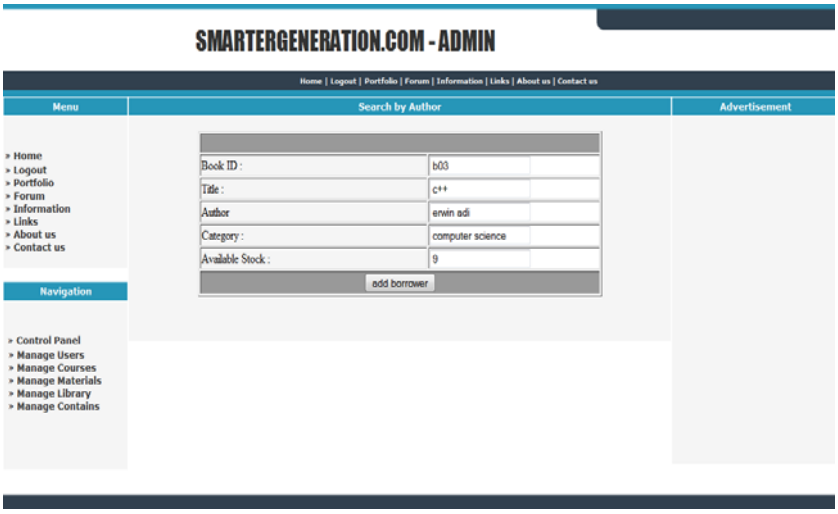

figure 98: admin search book result page

- **Admin Library – View Borrower Page**

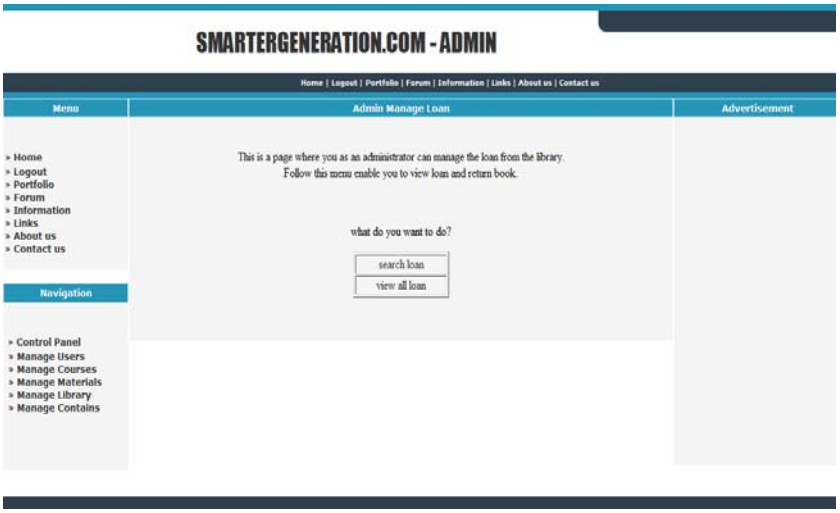

figure 99: admin view borrower page

- **Admin Library – View Search Loan Page**

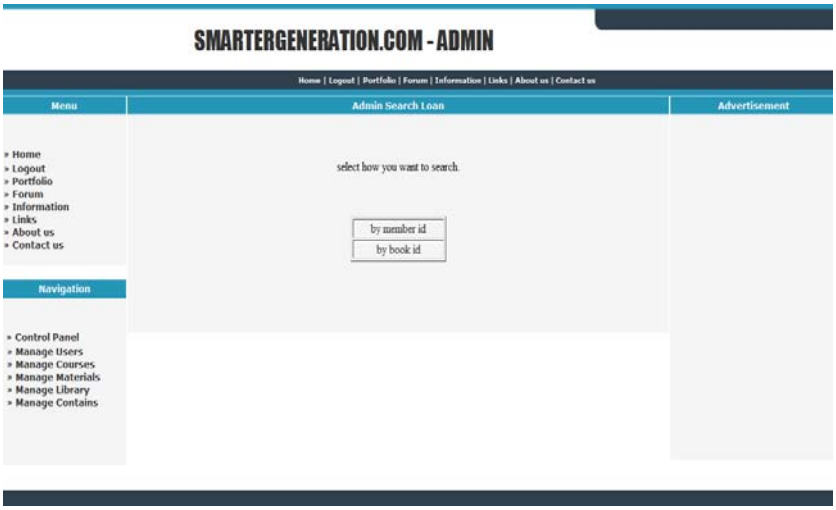

figure 100: admin view search loan page

- **Admin Library – View Search Loan by Selected Key Page**

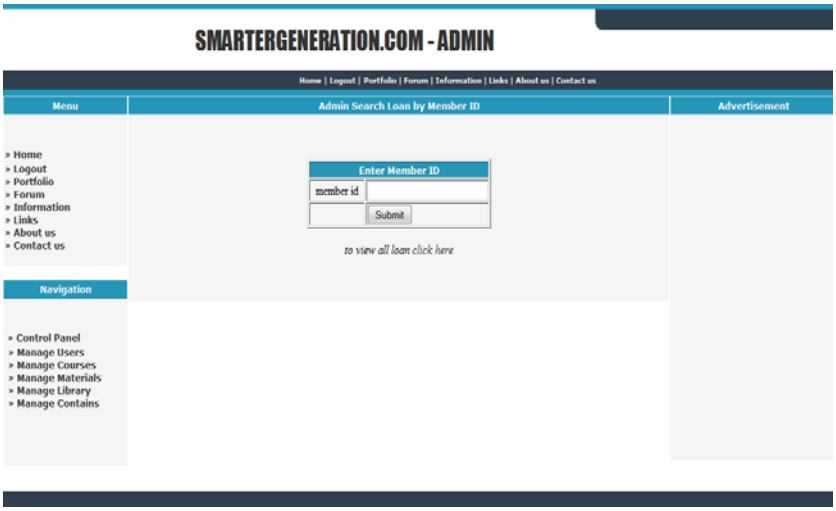

figure 101: admin view search loan by selected key page

- **Admin Library – View Search Book Loan Result Page**

figure 102: admin view search book loan result page

- **Admin Library – View All Loans Page**

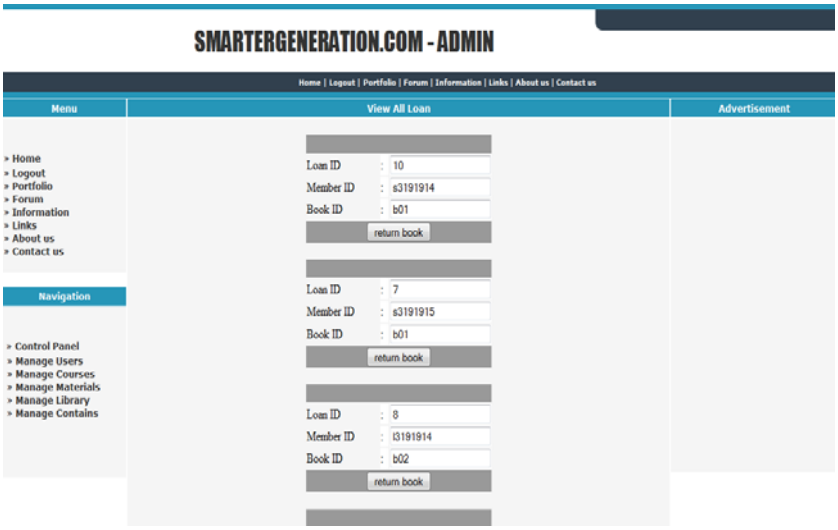

figure 103: admin view all loans page

- **Admin Library – Manage Category Page**

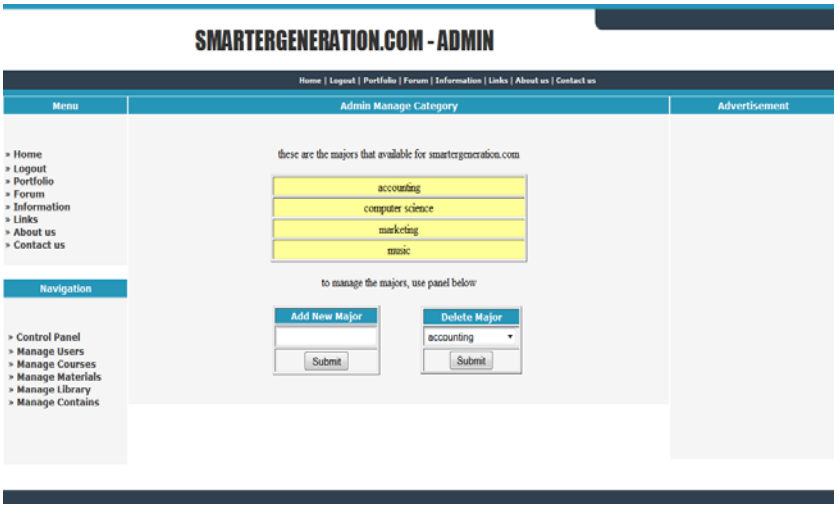

figure 104: admin manage category page

5.2.2. Student

- **Student Index**

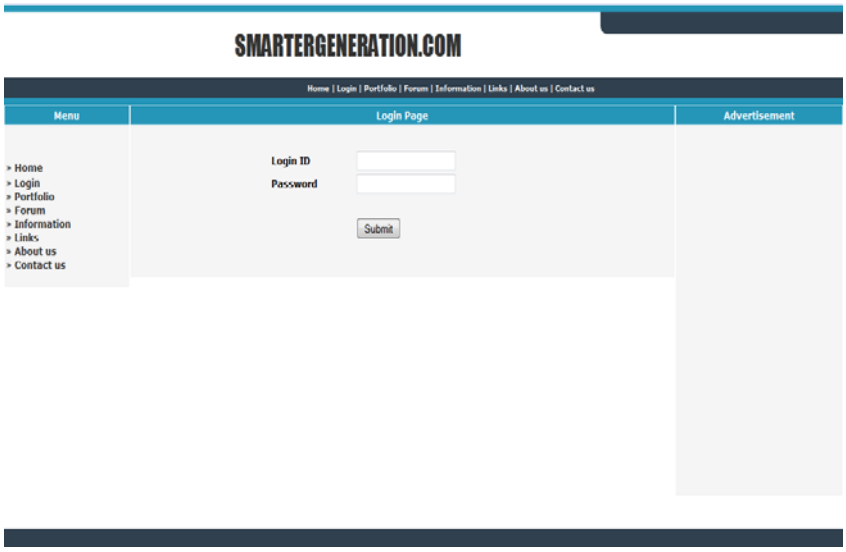

figure 105: student index page

- **Student Profile Page**

figure 106: student profile page

- **Student Edit Profile Page**

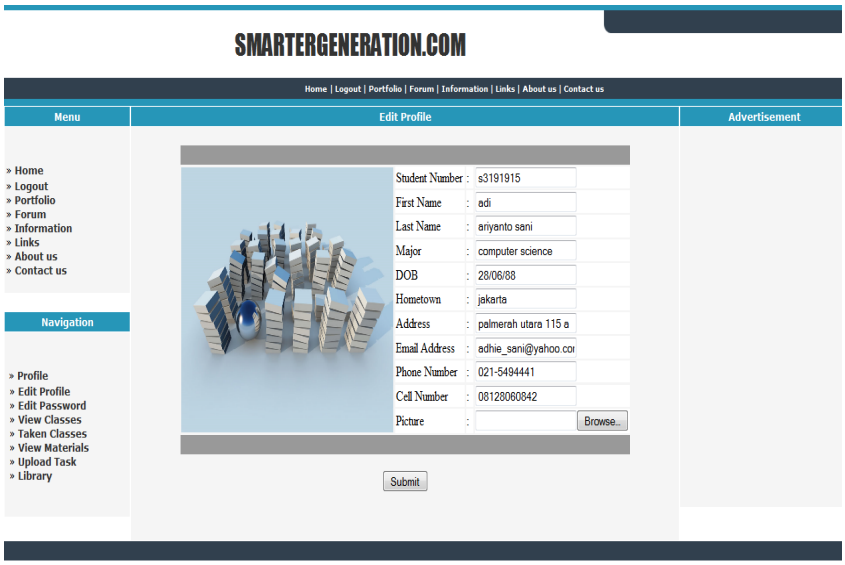

figure 107: student edit profile page

- **Student Edit Password Page**

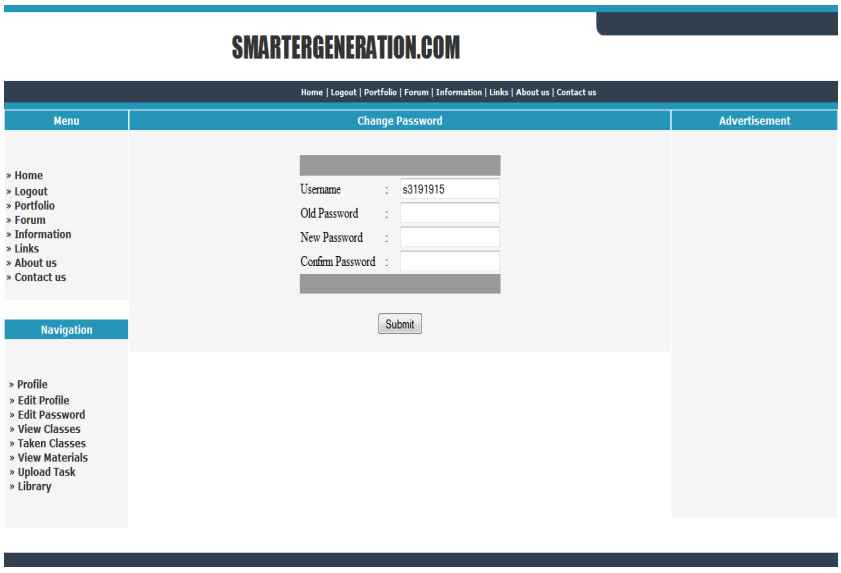

figure 108: student edit password page

- **Student View All Available Class Page**

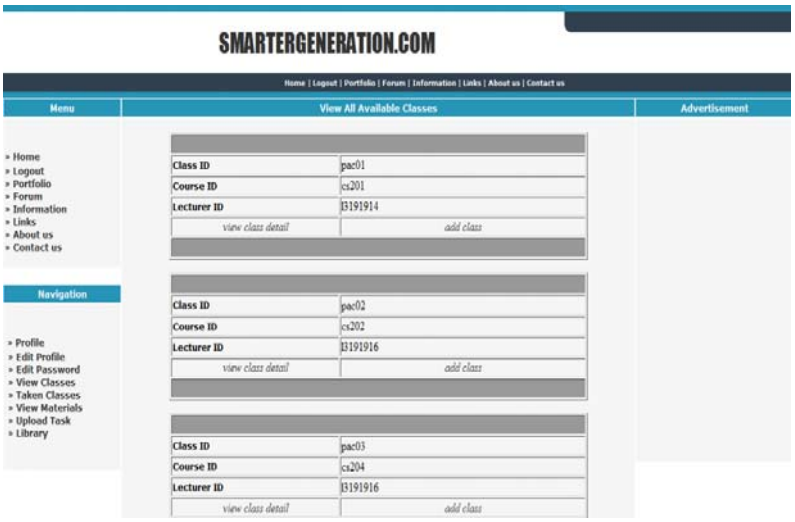

figure 109: student view all available class page

- **Student View Class Detail Page**

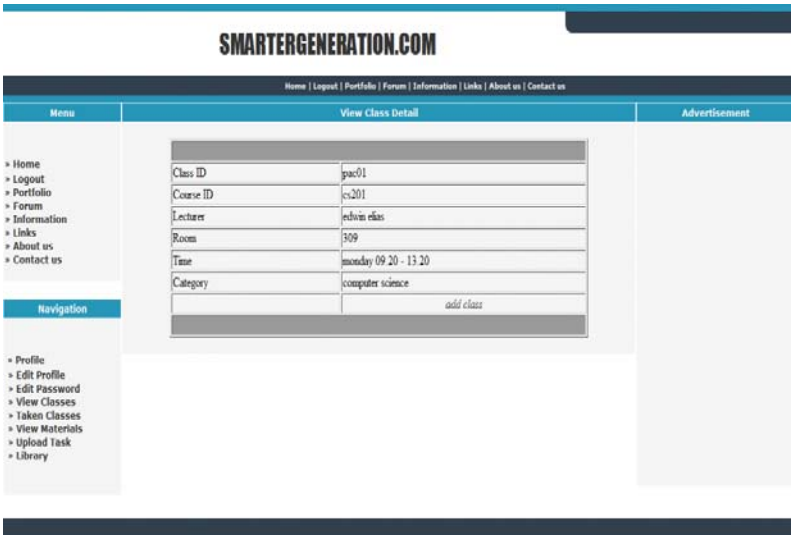

figure 110: view class detail page

- **Student View Taken Class Page**

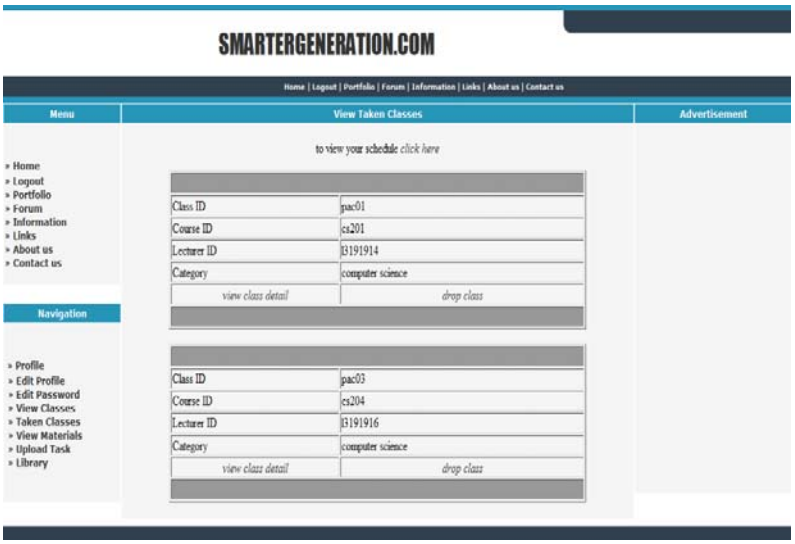

figure 111: view taken class page

- **Student View Taken Class Schedule Page**

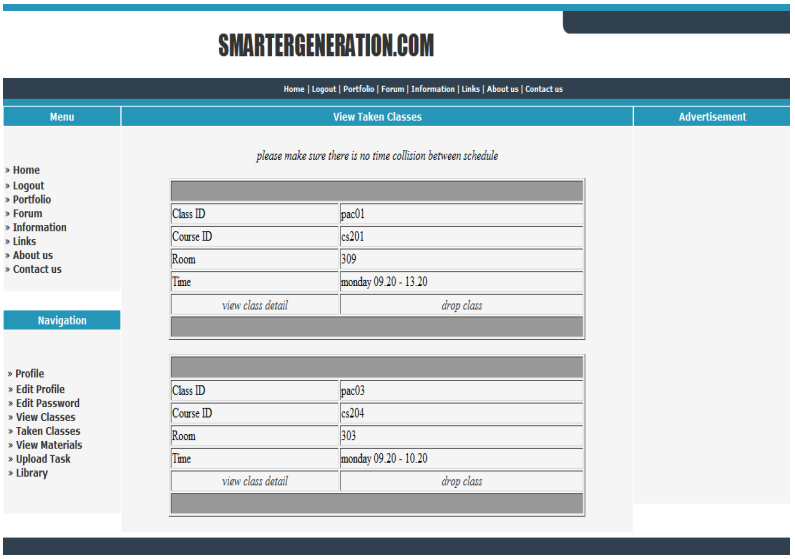

figure 112: student view taken class schedule page

- **Student View Materials Page**

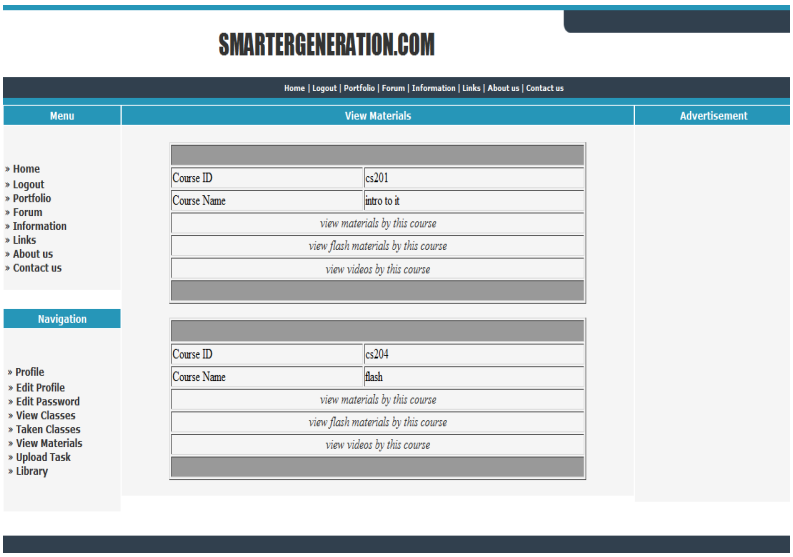

figure 113: student view materials page

- **Student View Download-able Material Page**

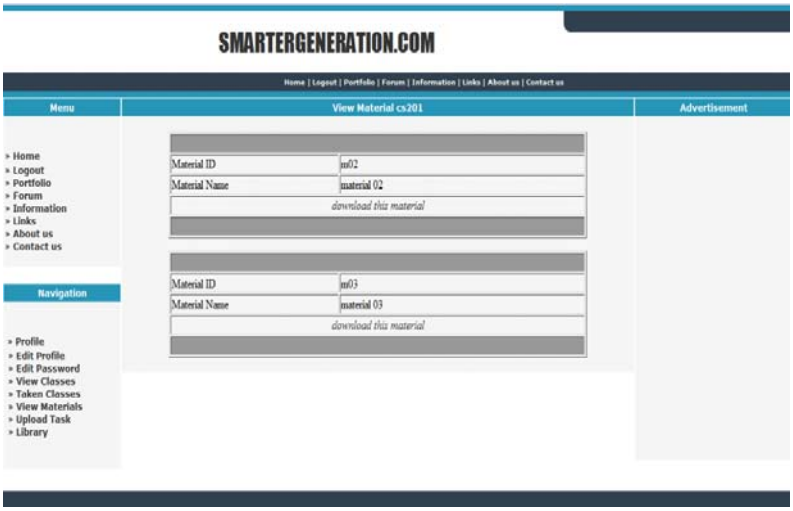

figure 114: student view download-able material page

- **Student View Flash Materials Page**

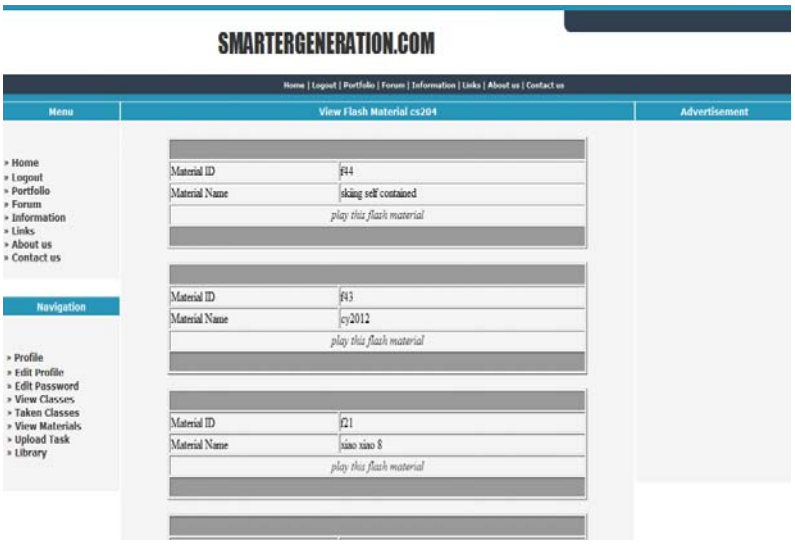

figure 115: student view flash material page

- **Student View Video Materials Page**

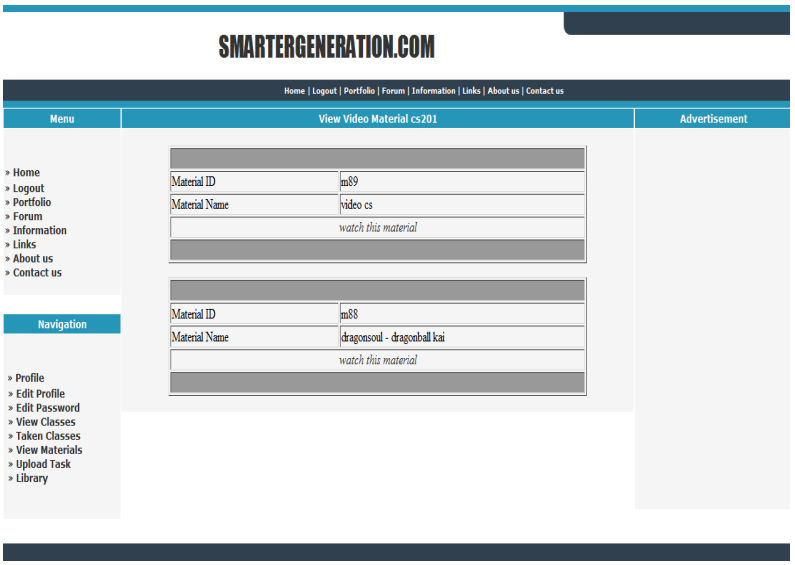

figure 116: student view video material page

- **Student Play Flash Material Page**

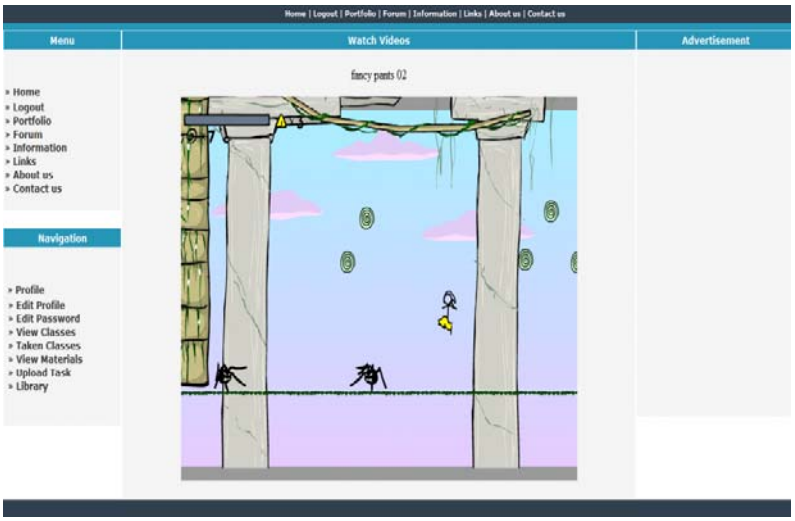

figure 117: student play flash material page

- **Student Watch Video Material Page**

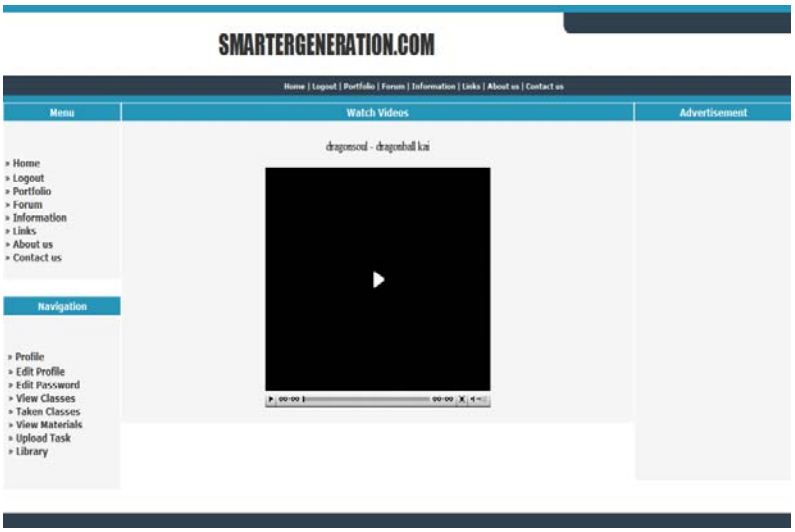

figure 118: student watch video material page

- **Student Upload Assignment Page**

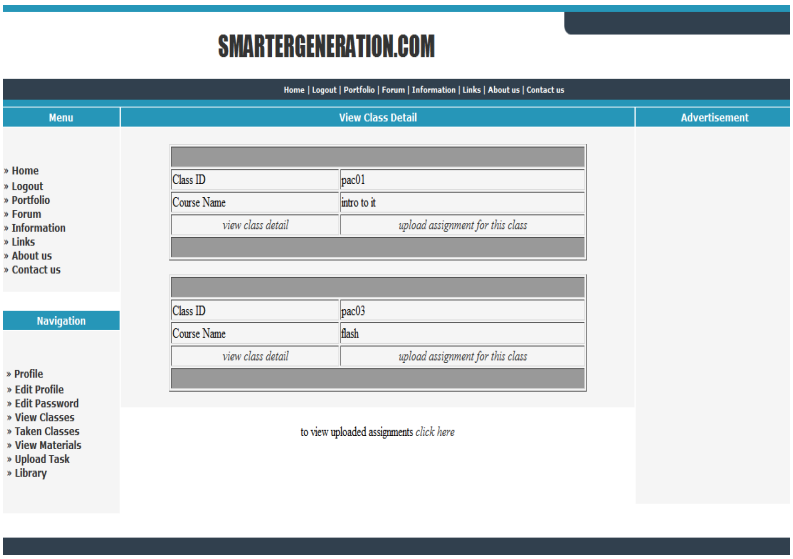

figure 119: student upload assignment page

- **Student Upload Assignment File Page**

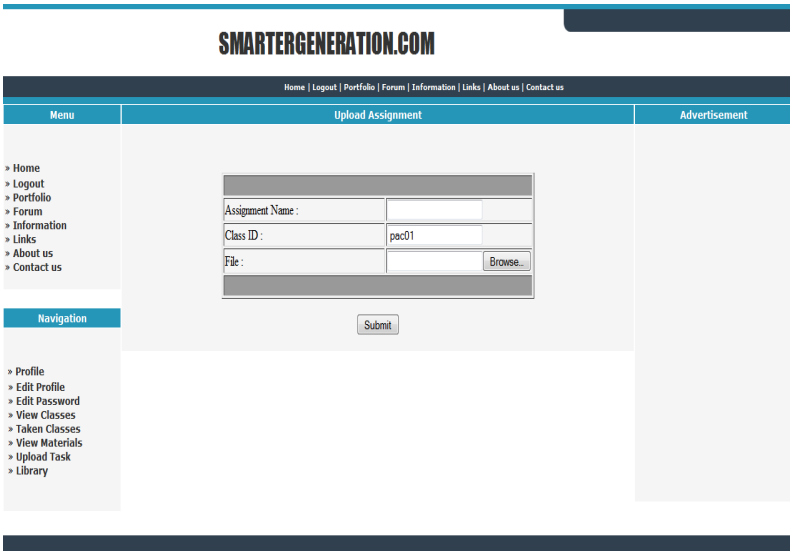

figure 120: student upload assignment file page

- **Student View Uploaded Assignment Page**

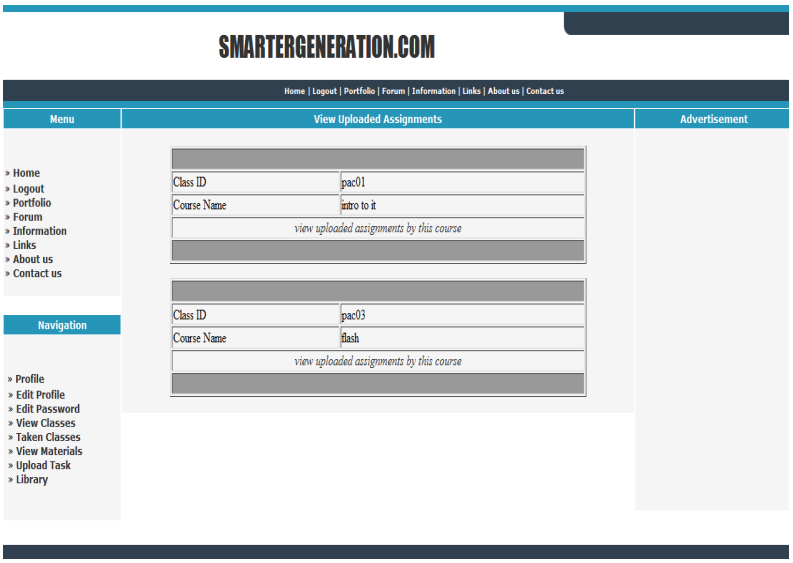

figure 121: student view uploaded assignment page

- **Student View Uploaded Assignment File Page**

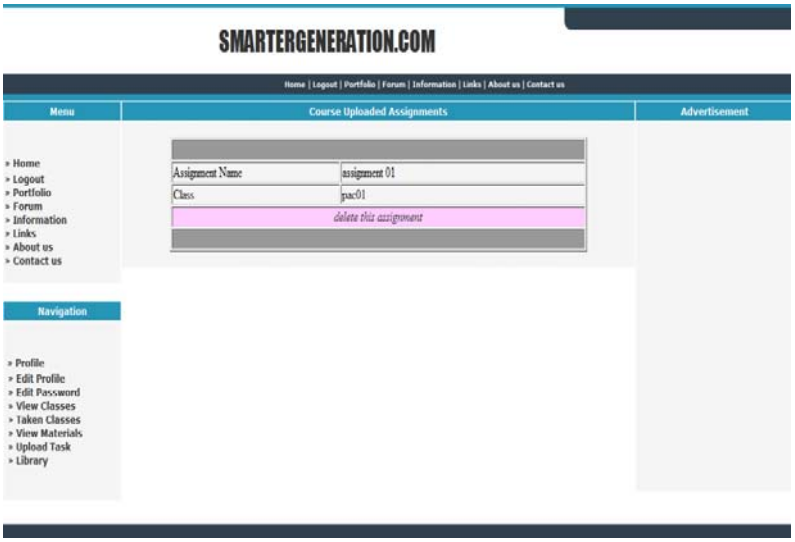

figure 122: student view uploaded assignment file page

- **Student Library Page**

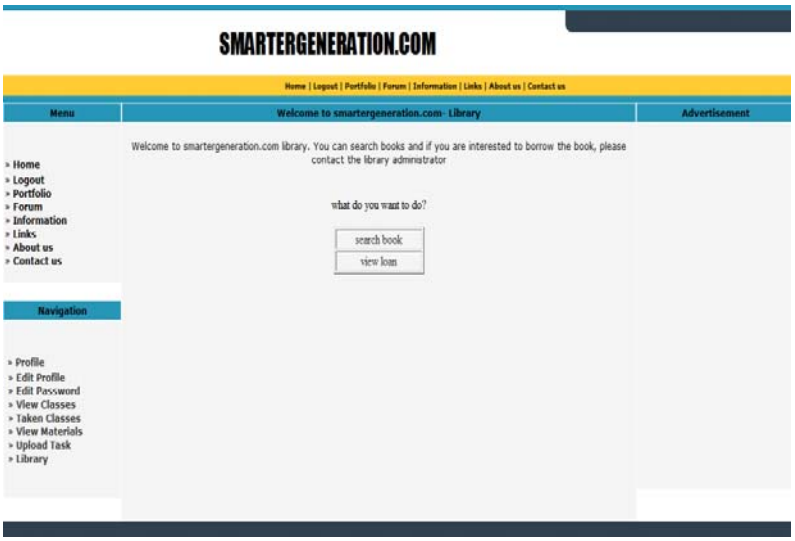

figure 123: student library page

- **Student Library – Search Book Page**

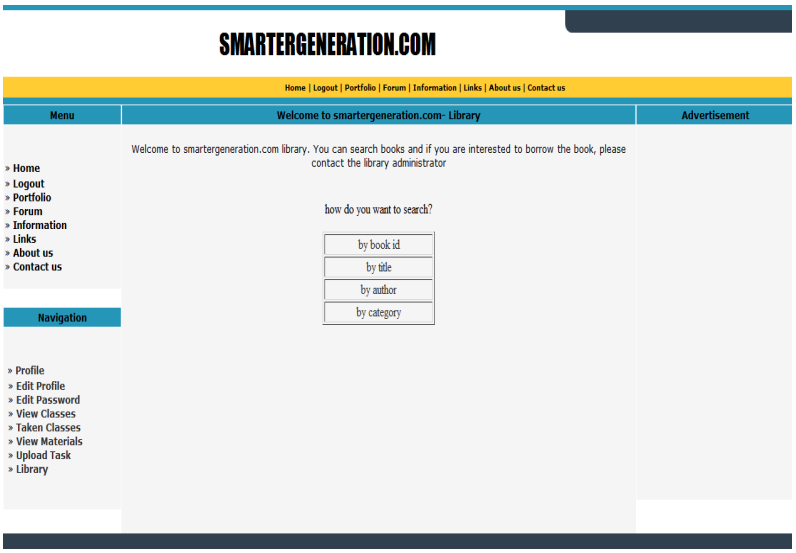

figure 124: student search book page

- **Student Library – Search by Selected Key**

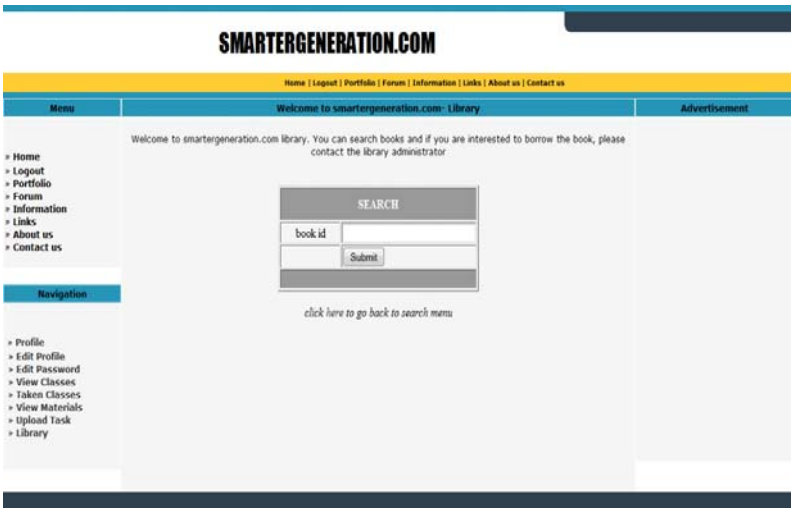

figure 125: student search by selected key page

- **Student Library – Search Book Result**

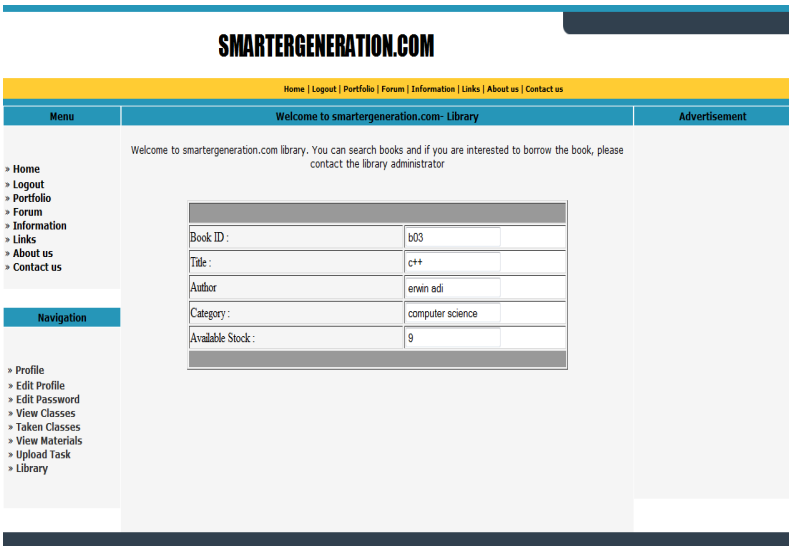

figure 126: student search book result page

- **Student Library – View Loan**

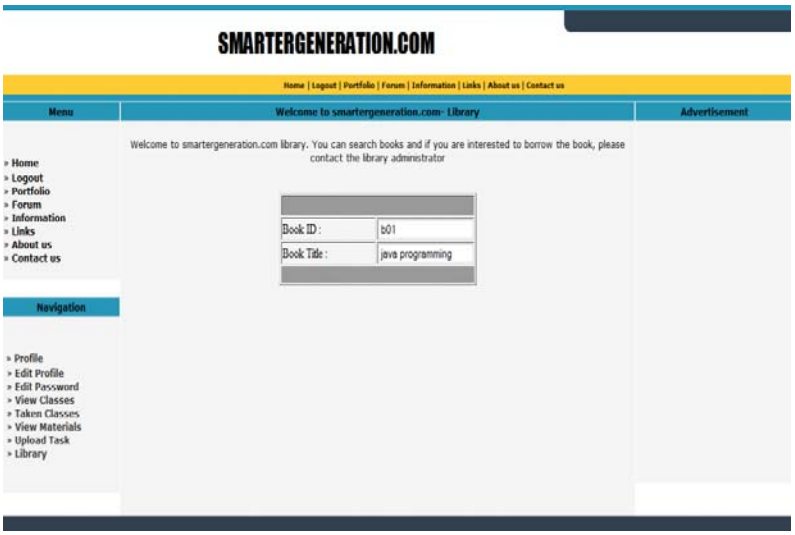

figure 127: student view loan page

5.3.Gammu Installation

Gammu is a modul that can be integrated with any type of programming language [23]. Gammu enables insertion the information from the cellular phone into the database. These are the requirements for Gammu execution for the developed application by the thesis team:

- Gammu for Windows
- Cellular phone or GSM Modem and supported USB Cable [the thesis team use the Nokia 3120 and the DKU 5 cable]
- The Driver for the Cellular Phone or The GSM Modem
- Apache and MySQL [the thesis team using the XAMPP which already includes these both application]

After the requirements above were fulfilled, the first step to be done is to locate the Gammu Modul by extracting the zip files to C:\ drive. Second, modify the gammurc file by change the PORT number with the current PORT of the modem or cellular phone and also change the connection depends with the USB cable that is used. The thesis team used the DKU 5 and the connection type is fbuspl2303. Third, modify the smsdrc file by changing the connection access to the database.

After done with all steps above, the next step to do is to import database mysql.sql. The last step is to check whether the Gammu recognized the cellular phone or not. Go to command prompt and go to the path where the Gammu files located and type gammu –identify. If the information of the cellular phone with the IMEI number are there, then Gammu recognize the cellular phone/modem.

The next Step is to execute the sms service by type gammu –smsd MYSQL smsdrc. Now every message that goes to the cellular phone will be saved into the destination database in the inbox table.

5.4.Satisfaction Measurement Survey

The thesis team used surveying method to gather information about the use of e-learning system. The survey involved people that are familiar with the online course management system and web portal using website. The

information gathered will be very useful for thesis team to measure the results from the development process on chapter 4 of this thesis.

To gather the information needed, the thesis team used survey method by distributing questionnaire. The questionnaire was taken places on BiNus International University on 7th June 2009 and was executed by all thesis members.

The questionnaire itself was focused on the measurement of the technical requirements that were achieved from the development of the thesis team. The questionnaire is attached to this thesis at the appendix page.

As attached on the appendix [please see the appendix B], there are 7 questions that require the respondents to give score for each question. The scale of the score is using number 1 to 4 which means:

- 1 = completely disagree
- 2 = disagree
- 3 = agree
- 4 = completely agree

- **Result for Question Number 1**

  Statement: The website has friendly user interface

  Result:

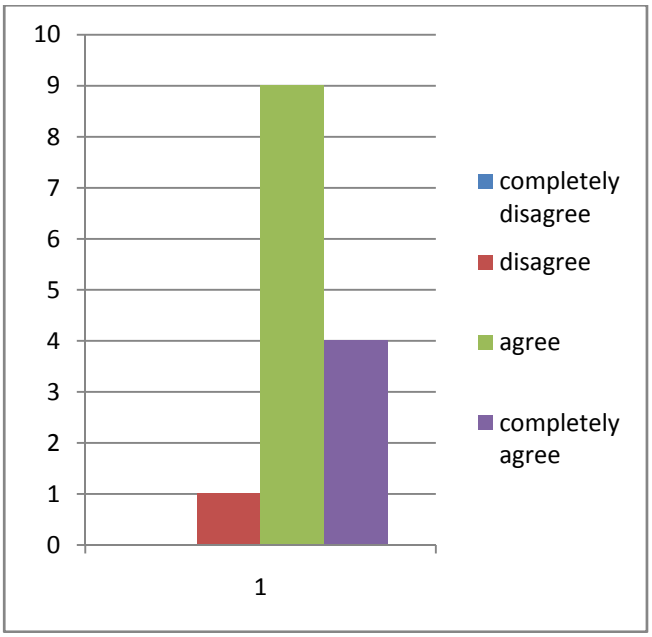

figure 128: result for question number 1

As showed on figure 125, the thesis team has achieved the friendly user interface requirements as stated on chapter 3 of this thesis paper. From 14 respondents of this questionnaire, 9 respondents completely agreed that the system developed by the thesis team has friendly user interface, 4 respondents agreed that the system has friendly user interface, and 1 respondent disagreed.

- **Result for Question Number 2**

  Statement: The features supports for education process

  Result:

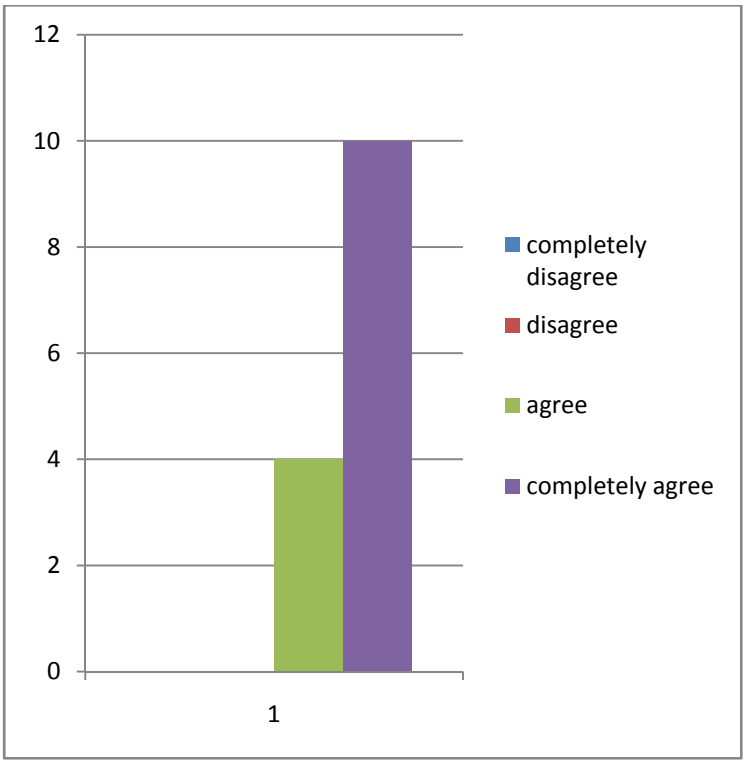

figure 129: result for question number 2

As showed on figure 126, the thesis team has achieved in implementing supporting features for education process for the system. From 14 respondents of this questionnaire, 10 respondents completely agreed that the system developed by the thesis team has features that support the education process, 4 respondents agreed, and no respondent gave negative point of view for this statement.

- **Result for Question Number 3**

  Statement: The validation message after every execution is helpful

  Result:

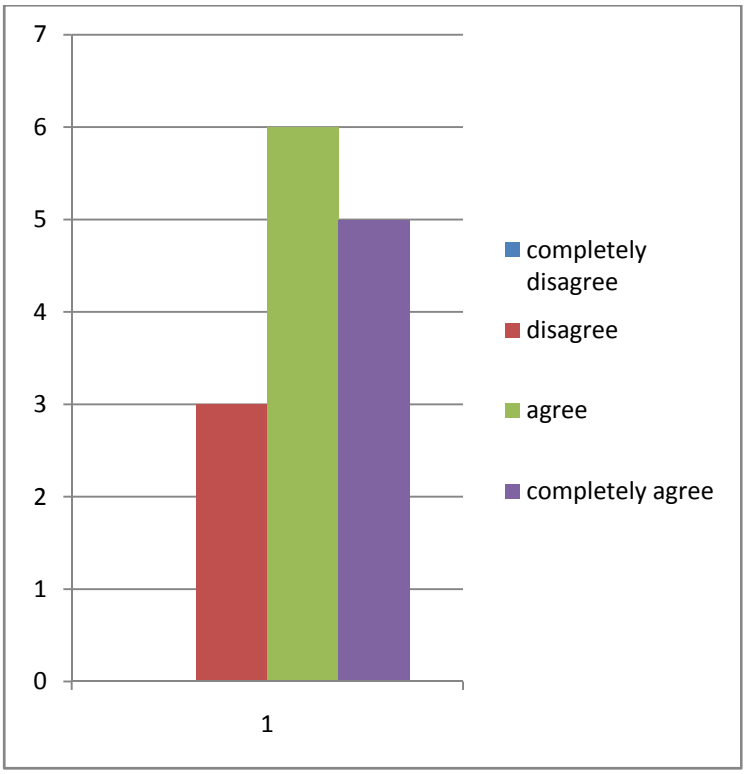

figure 130: result for question number 3

As showed on figure 127, the thesis team has achieved in implementing validation message features after every execution in the system which is very helpful for the users. From 14 respondents of this questionnaire, 5 respondents completely agreed with the statement that the validation message after every execution is helpful, 6 respondents agreed, and 3 respondents disagree about the statement.

- **Result for Question Number 4**

  Statement: Arrangement information displayed on screen is good

  Result:

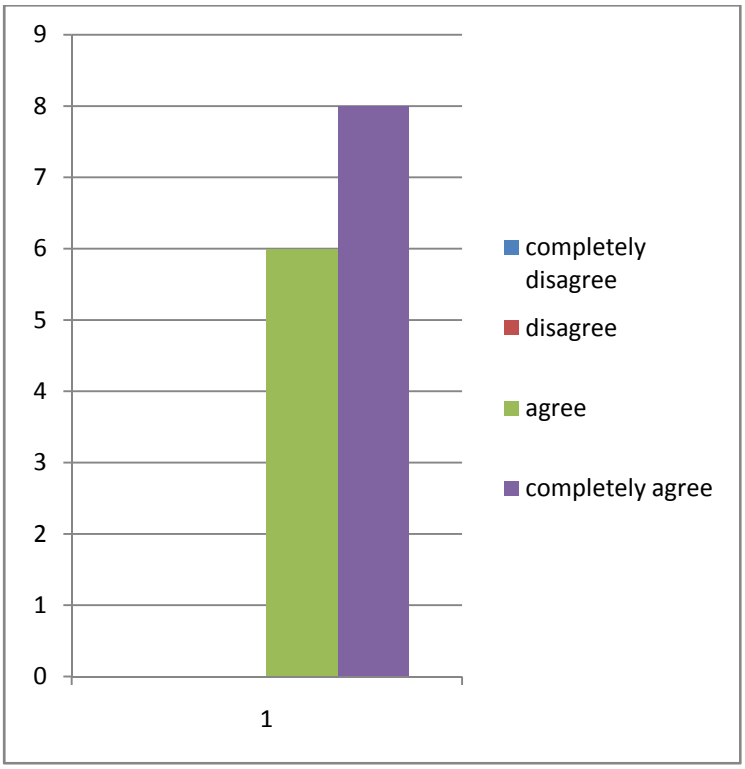

figure 131: result for question number 4

As showed on figure 128, the thesis team has achieved good arrangements for information displayed on the screen. From 14 respondents of this questionnaire, 8 respondents completely agreed with the statement that the developed system has good arrangement for information displayed on every page, 6 respondents agreed, and no respondent gave negative point of view for this statement.

- **Result for Question Number 5**

  Statement: It is easy to find out how the website works and easy to memorize it

  Result:

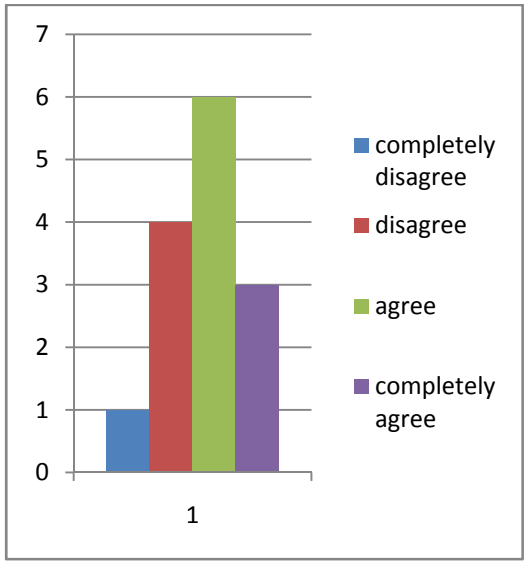

figure 132: result for question number 5

As shown on figure 129, most of the respondents agreed that they can easily find out how to works the website and also agreed that it is easy to memorize it. Some of the respondents also show their disagreement of the statement for question number 5. The thesis team achievement still shows some success reminding that the number of the respondents who agreed is larger than who did not. This indicator will be very useful for the further development of this thesis project that the system still need some modification for the complexities of using the website.

- **Result for Question Number 6**

  Statement: The website has good access control

  Result:

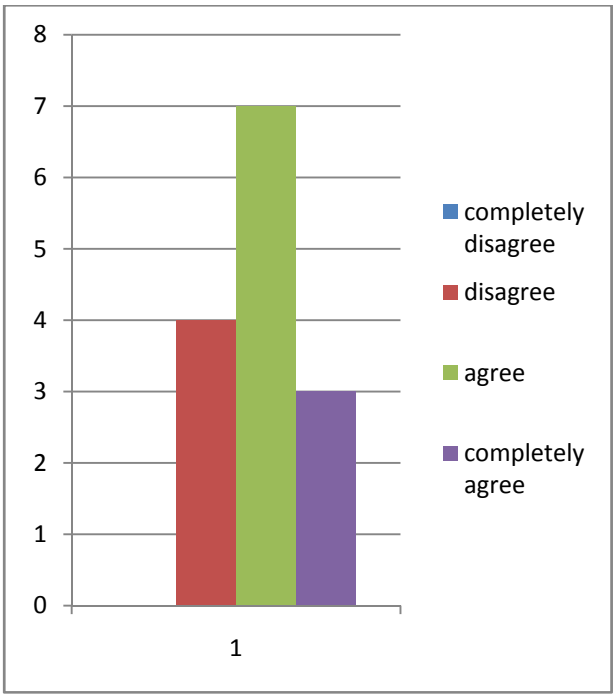

figure 133: result for question number 6

The thesis team also gave the respondents chances to be the administrator and the super administrator to measure the access control of the system. The result from the questionnaire as shown above on figure 130 tells that most of the respondents agree that the system developed by the thesis team has achieved a good access control. From 14 respondents involved, 3 respondents completely agreed with that the system has a good access control, 7 respondents agreed, and 4 respondents disagreed with the statement.

- **Result for Question Number 7**

  Statement: The overall quality of this website is good

  Result:

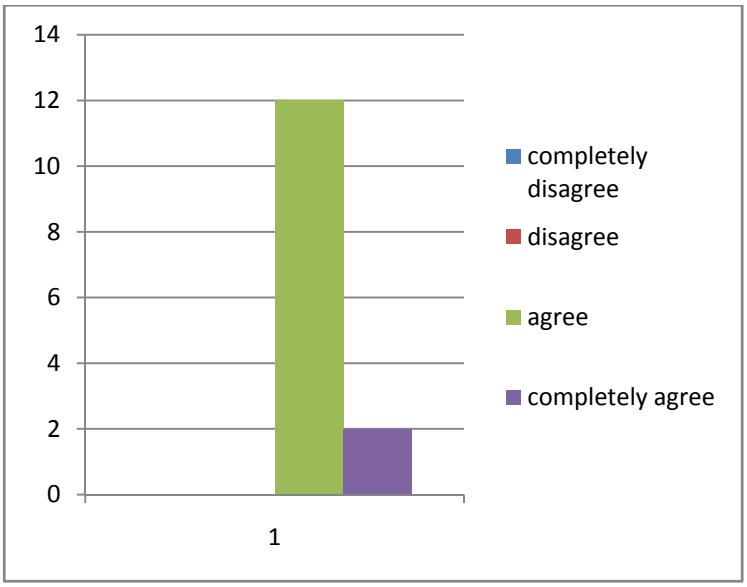

figure 134: result for question number 7

The last question from the satisfaction measurement questionnaire is to measure the overall quality of the website. As shown on figure 131, there are 14 respondents that are involved in these questionnaire 12 respondents agreed that the website developed by the thesis team has good quality and 2 respondents are completely agreed with this statement.