

How the System Works

7.1 Introduction

Previous chapter explain the implementation phase of the TMSFIT. That included Interface implementation, Database implementation and the Algorithm implementation in the various levels. Further, it included software and hardware requirements for the sample code segments with main system interfaces. This chapter will discuss how the system works with regards Admin, Lecturer and Students roles. The purpose of this chapter is to provide a user guide for this TMSFIT.

7.2 System Administrator's Role

System Administrator has all the responsibilities of the Timetable Management System. Further, he or she has authority to register lecturers and students to the system.

- Admin shall log on to the TMSFIT using a valid user name and a password. Login interface can be finding as following figure.

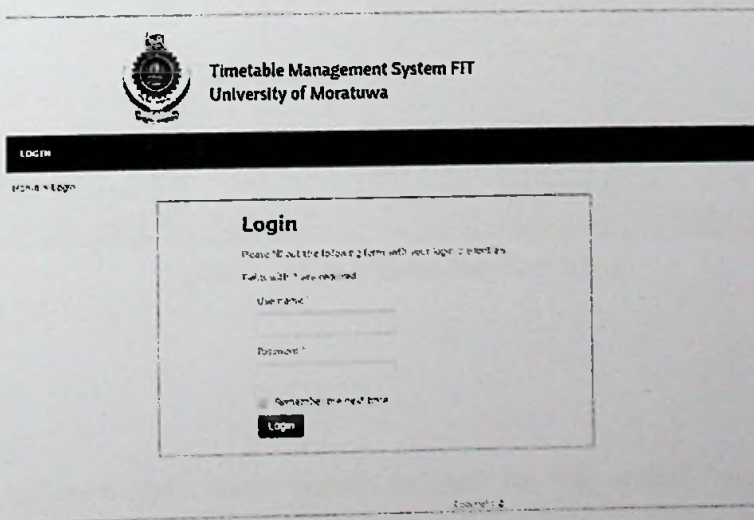


Figure 7-1 Login Interface

- Admin has the power of create, update and delete Degree, Student, Lecturer, Resource and Batch.

- Then, he or she will be able to see the dashboard or control panel of the system.
- Admin has the authority of creating resources such as labs, halls and assign specific colors to identify those in the timeslots. See Appendix
- Most probably, faculty previously defined the offering degree programs. Therefore, not always necessary to create or change the existing degrees.
- Student registration for the system must be essential when anew academic year starts. It can be done as Create Student or Upload Students options. When using create students, only one student can be created at a time. On the other hand, Using upload option, admin can upload as below mentioned Figure 7-2 an excel sheet of all the students in a particular batch.

Student reg #	Fname	Lname	Gender(Male/Female)	Date of Birth (YYYY-MM-DD)	Address	Contact	Email	Degree
134002T	M.M.S.U.	S.BEERATHNE	Female	2/2/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134004C	M.M.A.	M.M.A.	Female	2/3/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134005F	S.L.S.	A.WAMA DH	Female	2/5/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134006J	E.V.K	ALWIS	Female	2/7/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134007M	M.Z.F	ANALA	Female	2/9/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134008A	G.K.S.M.	S.M.A.SINDHE	Female	2/9/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134009V	S.M.A.	S.M.A.SINDHE	Female	2/10/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134012A	M.W.L.	A.S.A.SA	Female	2/11/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134014D	A.S.W.E.A.	BANDARA	Female	2/12/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134016N	M.M.C.M.	BANDARA	Male	2/13/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134017T	P.P.B.M.	BANDARA	Male	2/14/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134018V	R.M.U.S.	BANDARA	Male	2/15/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134021B	V.D	CHAMARA	Male	2/16/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134022E	U.L.R.	CHANDRAGATHA	Male	2/17/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134026D	D.	DANDENYA	Female	2/18/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134029G	W.M.A	DASIRANI	Female	2/19/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134030C	D.V.A.U.	DASIRANI	Female	2/20/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134031F	W.H.M.T.	DASIRANI	Female	2/21/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134034A	K.T.M.B.	DE SILVA	Female	2/22/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134038V	M.S.D.	DE SILVA	Female	2/23/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134037E	M.G.R.	DILAKA	Female	2/24/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134032H	V.K.D.	DILMI	Female	2/25/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134039L	Q.M.R.	DISSANAYAKA	Female	2/26/1993	Gampaha	332224969	he111@yango.com	BSc.IT
134040S	I.G.A.N.	DISSANAYAKA	Female	2/27/1993	Gampaha	332224969	he111@yango.com	BSc.IT

Figure 7-2 Student Uploading Excel Sheet

- Admin shall create certain subjects for the desired batch for that academic year using below create subject interface.
- Admin has to create lecturers before assign them to specific subjects

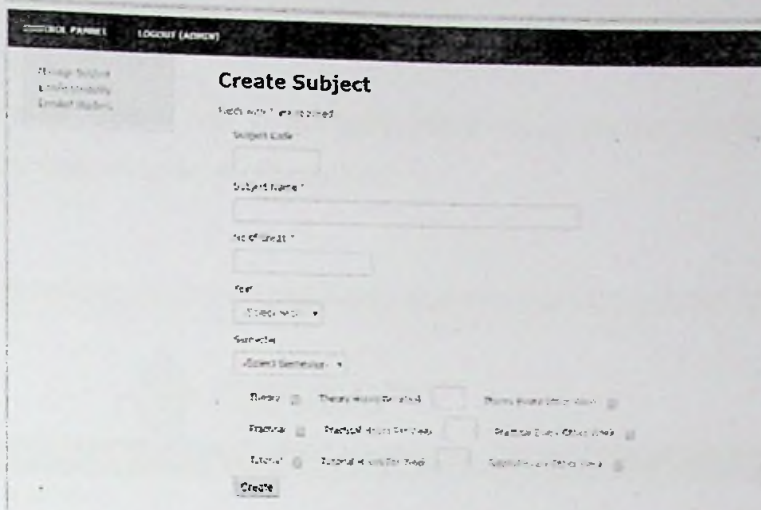


Figure 7-3 Create Subject Interface

- System also provides the facility of advanced searching of students, lecturers and subjects.
- Then, admin shall assign lecturers for particular subjects.
- After that, admin has to enroll students to subjects by using an excel sheet or add students one by one through the system.
- When the above activities are success, admin can generate a timetable for a particular semester of the desired academic year via system.
- This timetable may not fully optimal as Figure 7-4. Hard constraints are shown in the top left hand side of the timetable.
- Therefore, by considering hard constraints and previously defined soft

CONTROL PANNEL LOGOUT (ADMIN)

Timetable

- Room Overlap.
- Room not enough.
- Required resource not available.
- Lecturer Overlap.
- Student Overlap.

	Mon	Tue	Wed	Thu	Fri
08:15 - 09:15					IN 2110 PLAC LAB 08
09:15 - 10:15	IN 2110 PLAC LAB 08				IN 2110 PLAC LAB 08
10:30 - 11:30	IN 2110 PLAC LAB 08				
11:30 - 12:30					
12:30 - 13:30				IN 2110	IN 2110
01:30 - 02:30		IS 2110 4L-02-TU		1L-02-TU	4L-02-TU
02:30 - 03:30	IS 2110 4L-02-TU	IS 2110 4L-02-TU		IN 2110 1L-02-TU	IN 2110 4L-02-TU
03:30 - 04:30	IS 2010			IN 2110 1L-02-TU	

Figure 7-4 Timetable without fully optimal

constraints, admin has to manually adjust the generated timetable using another window as below Figure 7-5.

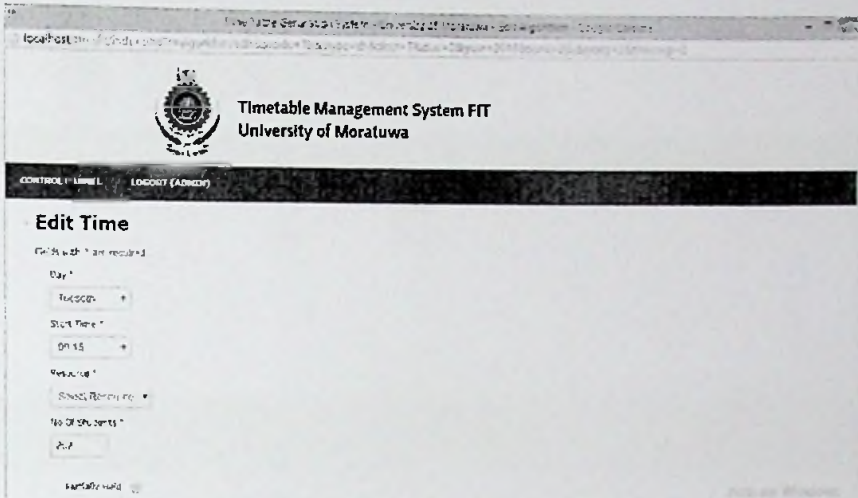


Figure 7-5 Timetable Editing Window

- Finally, the fully optimal timetable can be saved and it can be viewed any time. Further, when a new timetable saved, the previous timetable for that semester will be automatically discarded by the system.
- Moreover, Admin shall view generated timetable for desired batch and view allocated resources through the TMSFIT.
- System has the facility of getting printouts as Figure 7-6 of the generated timetable too.

7.3 Lecturer's Role of the TMSFIT

- Admin of the TMSFIT creates lecturer profile.

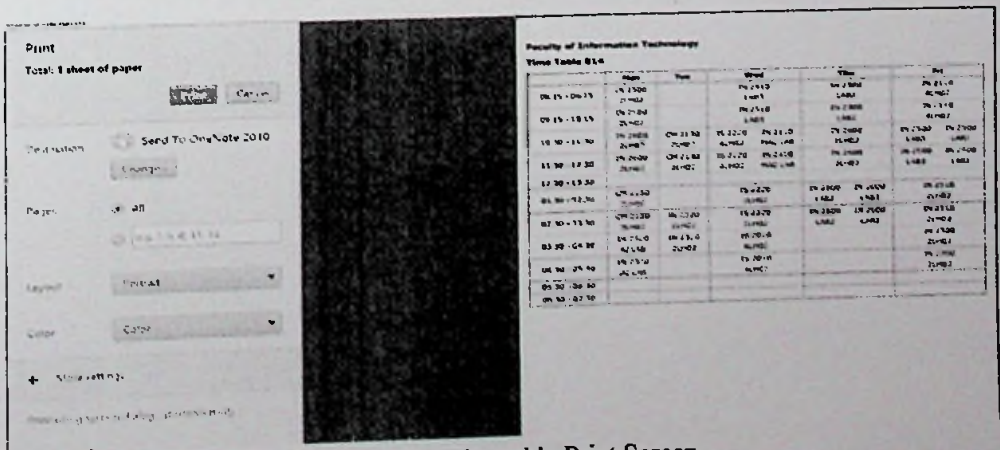


Figure 7- 6Timetable Print Screen

- By using valid username and a password, he or she can log on to the system. Lecture dashboard can be seen as below figure 7- 7.

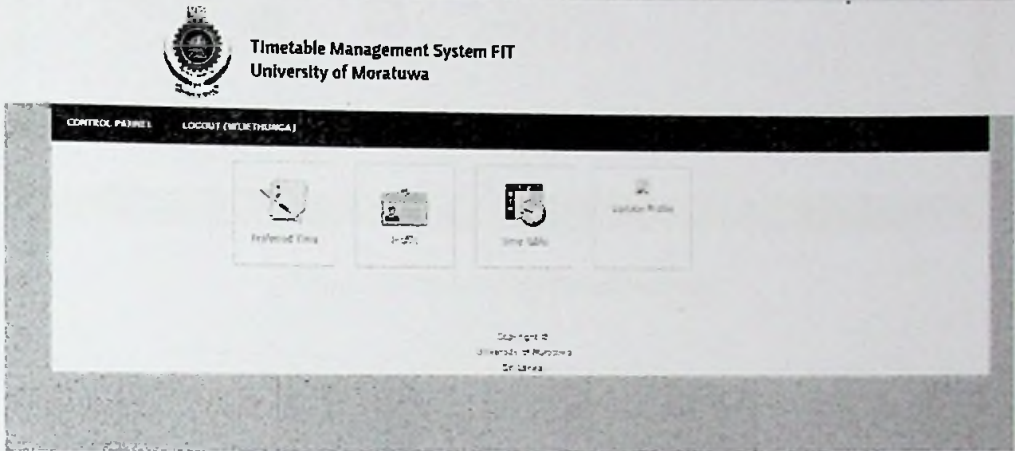


Figure 7-7 Lecturer Dashboard Interface

- Further, Lecturer shall enter preferred time through the system.
- Lecturer can view the timetable with accordance to their subject areas.
- Lecturer shall change the password as necessary.

7.4 Student's Role of the TMSFIT

- Admin of the TMSFIT creates student profile.
- By using valid user name and password student can log on to the system.
- Further, student can view the particular timetable.
- He or she can change the password from update profile option.

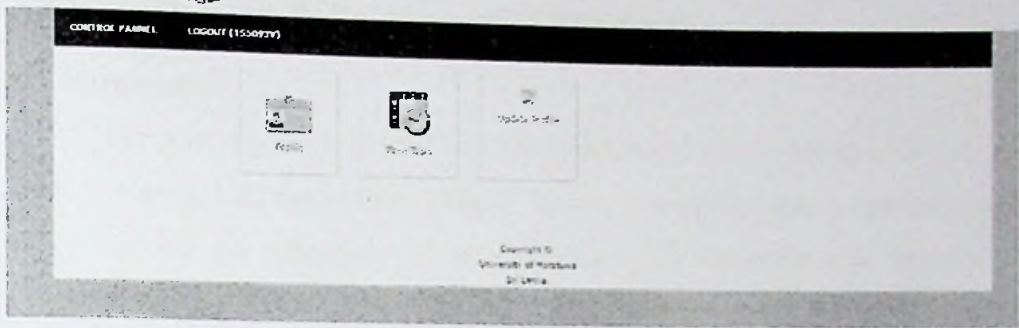


Figure 7-8 Student Dashboard Interface

7.5 Summery

This chapter described how the system works. Next chapter will define about how the system evaluated. It will further explain whether the objectives have been achieved using black box testing and white box testing, drawbacks, and limitations of the proposed TMSFIT.