ULTRON III
Elaboration Document

FORAGE

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Document Due Date: 20 JUNE 2019

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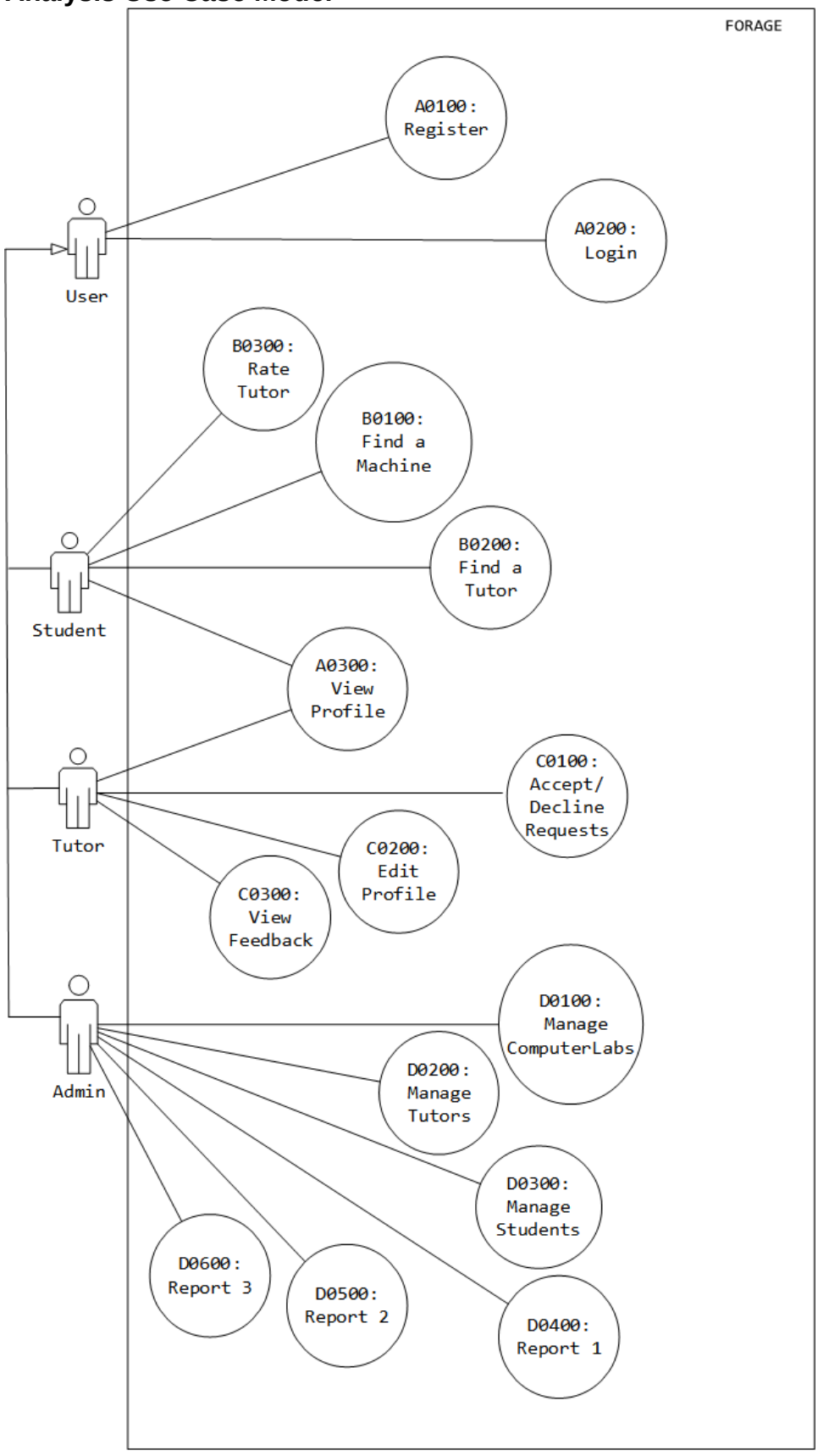
1 FUNCTIONAL REQUIREMENTS

1.1 Analysis Use Case Model



1.2 Use Case Glossary and Responsibilities

Use Case Id	Use Case Name
A0100	Register
A0200	Login
A0300	View Profile
B0100	Find a Machine
B0200	Find a Tutor
B0300	Rate Tutor
Queries/Reports	
D0600	Report 3: Determine the highest requested module on the system

Use Case Id	Use Case Name
C0100	Accept/ Decline Requests
C0200	Edit Profile
C0300	View Feedback
Queries/Reports	
D0500	Report 2: Determine who is the most requested tutor

Use Case Id	Use Case Name
D0100	Manage Computer Labs
D0200	Manage Tutors
D0300	Manage Students
Queries/Reports	
D0400	Report 1: Determine the number of vacant machines within a specific lab

2 UI Prototypes

2.1 UI Guidelines

Stick to a minimalist approach. Less is more. Adhere to consistency throughout the system designs. Minimise distractions. There are still concerns regarding implementation and the feasibility of some of the functions proposed initially but at least for now retain focus on getting the basics right i.e. getting the user to perform tasks correctly and less about the platform on which the system is deployed.

The UI must be platform independent. Ensure that both the graphic elements and terminology are maintained across platforms. “Sign in” is not the same as “Log in”. In lame man’s terms to “Sign in” means to “Log in” however using different names is clumsy and inconsistent hence it’s frowned upon.

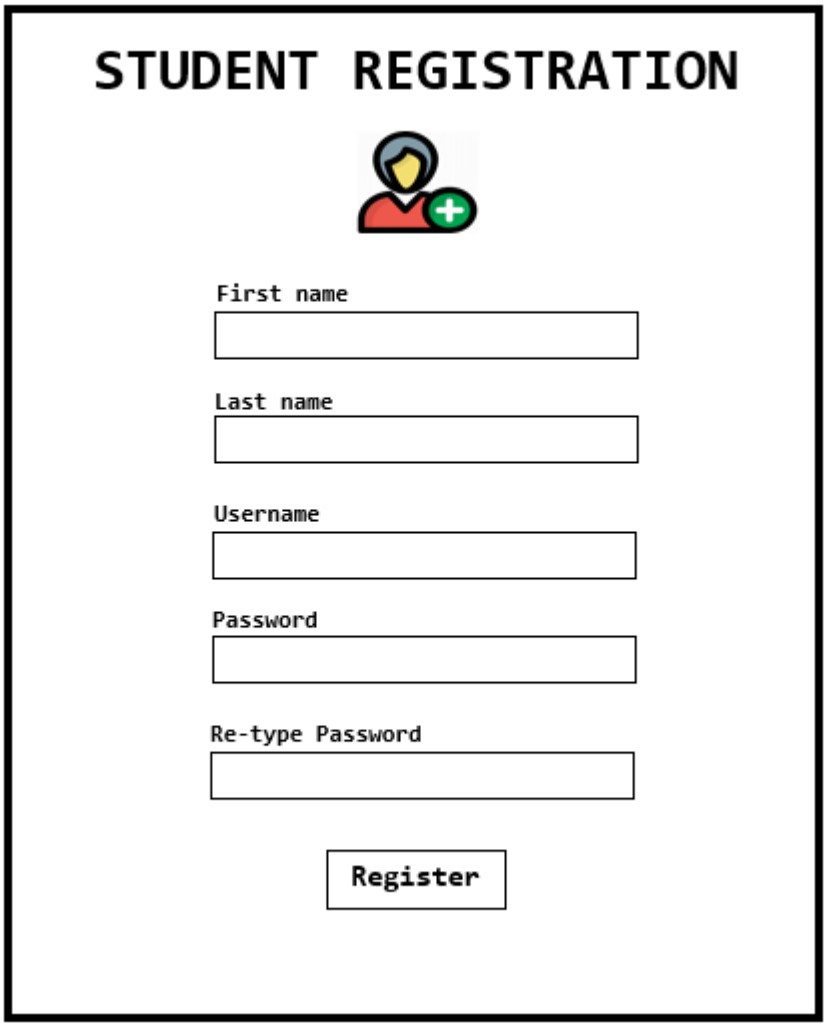
Keep a simple user interface. This reinforces that the system is an educational/ task tool and not a recreational application. The choice of colours used must compliment official Nelson Mandela University colours and the system itself must be consistent with existing university information systems. Nonetheless, the use of these colours must not be over excessive in order to bring about an aesthetic appeal and flair.

Provide the user with controls to filter excess information. Use whitespace to your advantage. You do not want things to be cluttered all on the same screen space and at the same time, you do not want the user to have to tilt their head to look at other parts of the same screen. Elements must be within reach, clearly labelled and actually *visible*.

2.2 UI Designs & Updated Analysis Use Case Narratives

2.2.1 Designed by Emandleni Moyo

Use Case ID	Use Case Name	
A0100	Register	
Primary Business Actors		**Other participating Actors**
Student, Tutor, Admin		
Description	First time users must register onto the system. If the user is a student or a tutor they register through the mobile application and if the user is an administrator, they must register through the desktop application. When the user is registering through a phone application they have to specify whether they are registering as a student or a tutor. Only first name and last name are required personal entries for the student. A tutor may create a profile in the process of registering and declare even more required personal information. Upon successful registration, the user is automatically signed in onto the system and can use the allocated features of the system dedicated to their needs.	
Pre-Conditions	To register a student must not have registered as a student before, a tutor must not have registered as a tutor before and an admin must not have registered as admin before. The user must have Nelson Mandela University credentials. Credentials are made up of a unique student number (username) appended with an ‘s’ character at the start and password. Student must be registered for a program offered in the computer science department.	
Triggers	Users launches the application and chooses to register. ‘Register’ button must exist on the app home page	
Post-Conditions	User is registered onto the system	
Basic Flow of Events	1. User launches the application 2. User is taken to the home screen of the App 3. User clicks register. 4. User is taken to a page with a form to fill in credentials 5. User enters credentials in the appropriate spaces 6. User clicks on submit. 7. A message is shown on screen confirming success or failure of verification. 8. User is returned to the home screen	

Initial UI design	

TUTOR REGISTRATION

First name

Last name

Username

Password

Re-type Password

Qualification

Base Charge

Year of Study

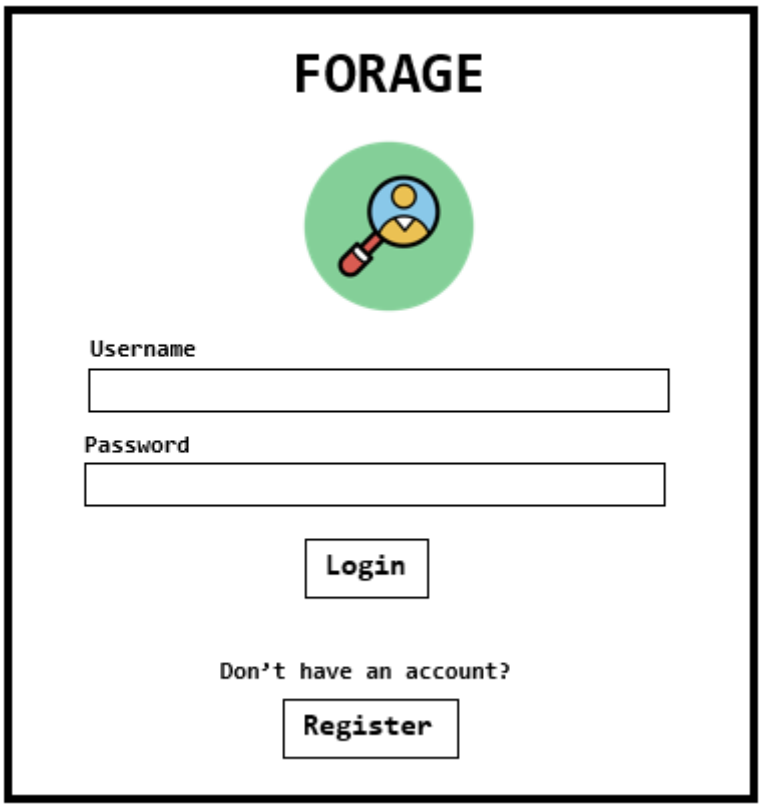
Bio

Describe who you are

Register

2.2.2 Designed by Emandleni Moyo

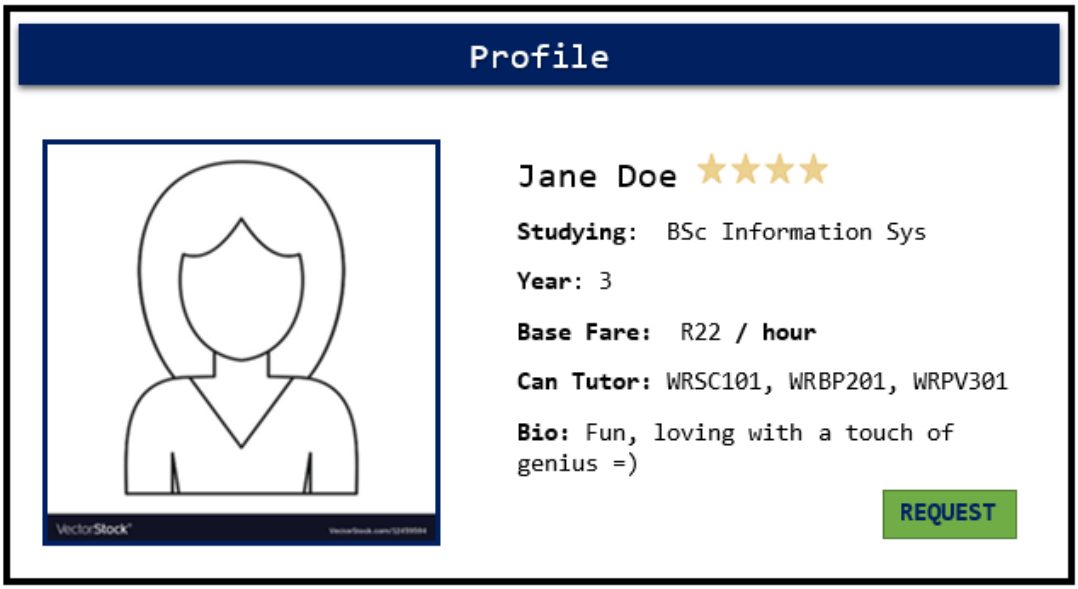
Use Case ID	Use Case Name	
A0200	Login	
Primary Business Actors		**Other participating Actors**
Student, Tutor, Admin		
Description	A registered user is able to sign in to the system. Each user must use the credentials that they used to register onto the system with in order to login.	
Pre-Conditions	The User must be registered in the system. 'Login' button must exist on the screen.	
Triggers	User launches the application.	
Post-Conditions	The user is logged in and is able to use their allocated features of the system.	
Basic Flow of Events	1. User launches the application. 2. User is taken to the application log in screen 3. User enters credentials in the appropriate spaces 4. User clicks login 5. User clicks on submit	
Alternate Flow of events	In case of incorrect credentials, an error appears and the user must either try again, or close the application. In case user does not have an account, they are prompted to register.	

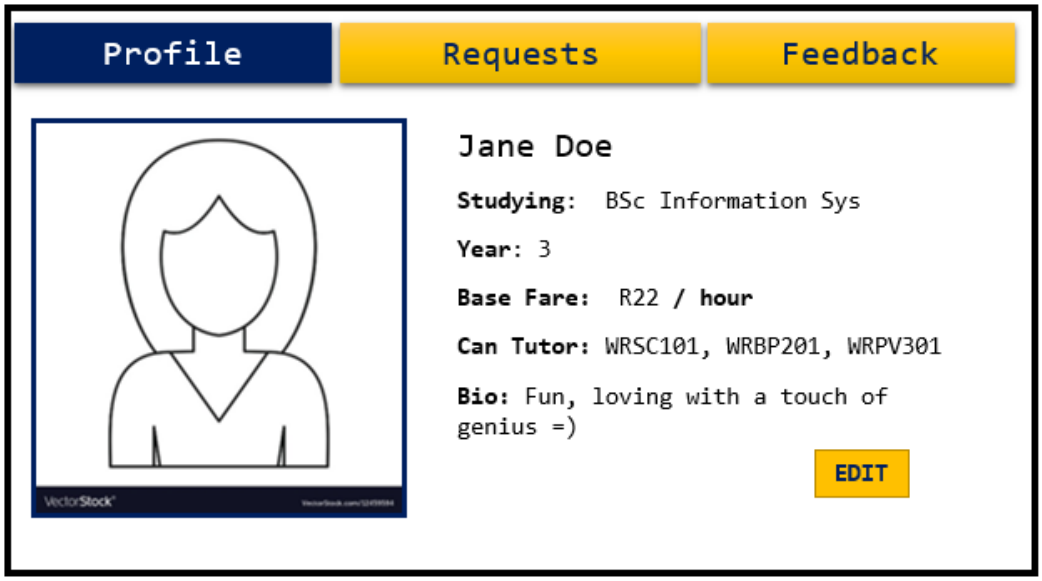
Initial UI design	

2.2.3 Designed by Emandleni Moyo

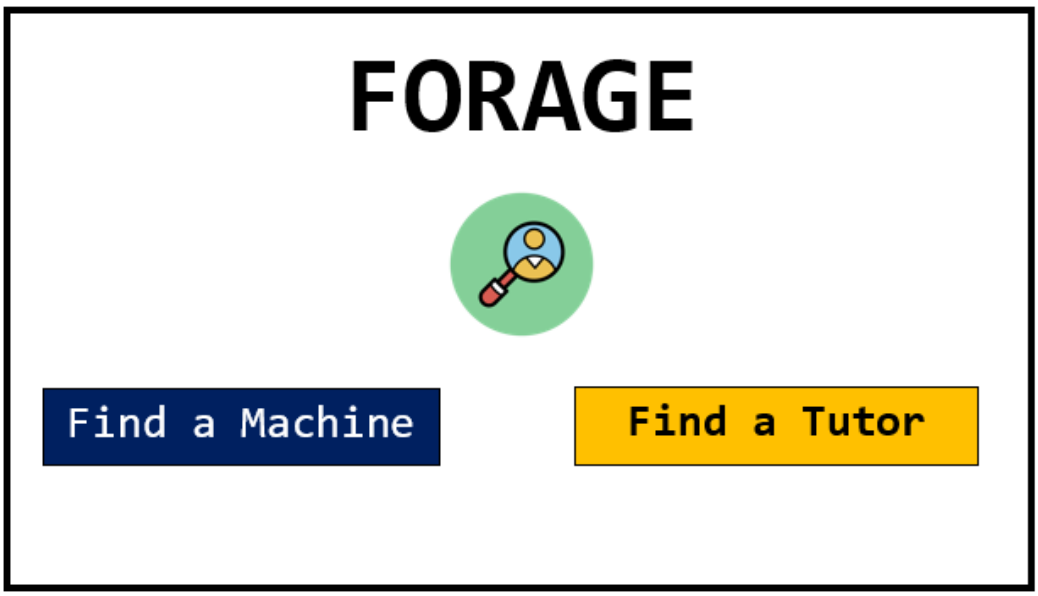
Use Case ID	Use Case Name	
A0300	View Profile	
Primary Business Actors		**Other participating Actors**
Student, Tutor		Admin
Description	Student users have the ability to view the profile of potential tutors. This provides an indication of which tutor would provide the best value for money. On the other hand, a tutor user has a view that allows them to update their profile.	
Pre-Conditions	The user must be signed in. 'Find a tutor' button must exist on the student view screen. There must be at least one module. There must be at least one tutor. The list of tutors must be displayed on the screen.	
Triggers	The user must click 'View Profile' on the tutor they are interested.	
Post-Conditions	The selected tutor profile appears on the screen.	
Basic Flow of Events	1. User clicks on 'Find a Tutor'. 2. A list of tutors is displayed on the screen 3. User selects to view the profile of a tutor that they are interested in. 4. The profile of the tutor is displayed on screen	
Alternate Flow of events	If there are no modules under 'Find a Tutor', then the user will not be able to see any tutors.	

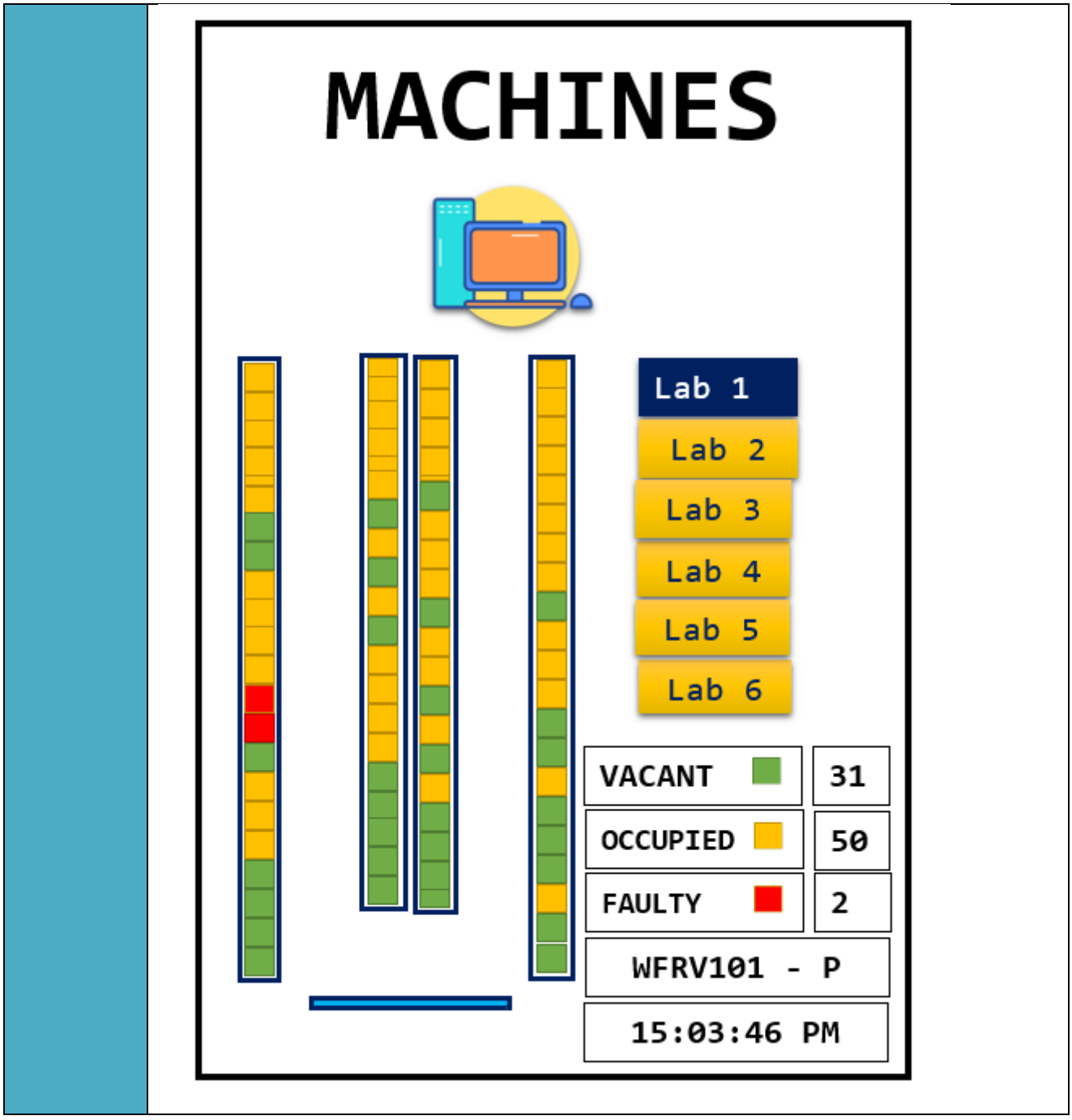
Initial UI design



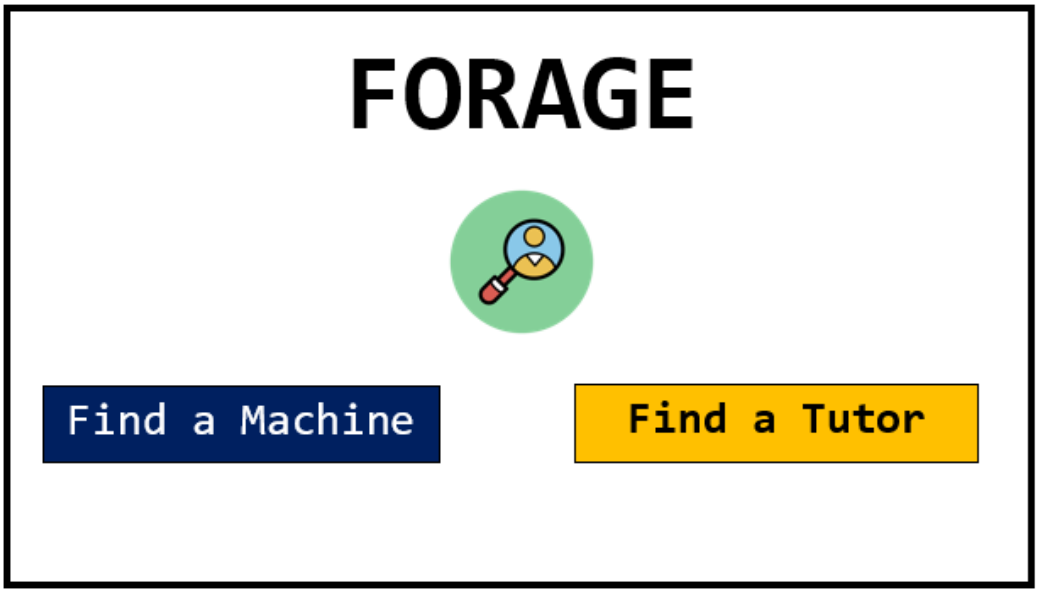


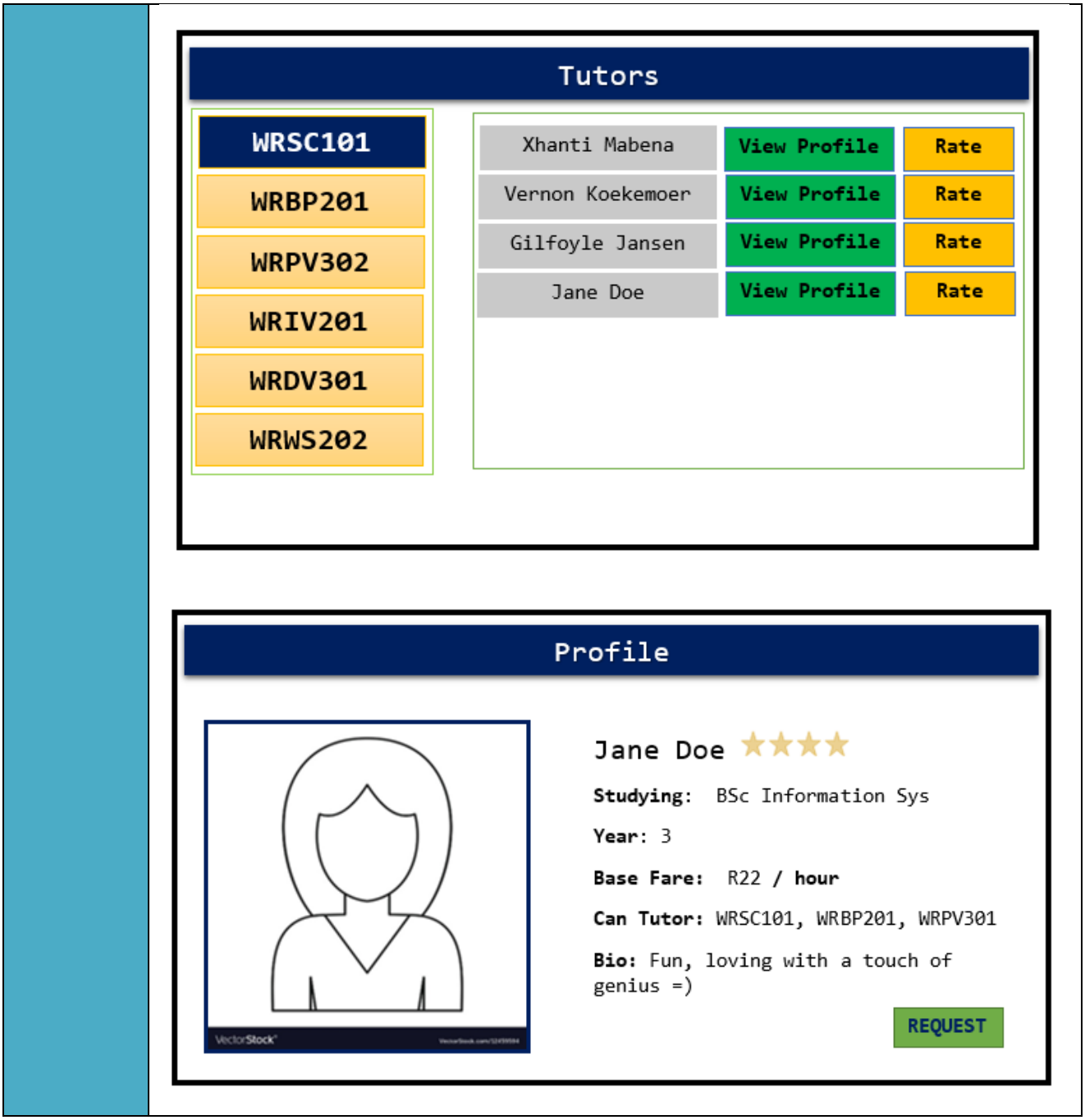
2.2.4 Designed by Emandleni Moyo

Use Case ID	Use Case Name	
B0100	Find a Machine	
Primary Business Actors		**Other participating Actors**
Student		
Description	Students are be able to identify non-vacant workspaces in any one of the computer labs at Embizweni. A student must choose a computer lab to view and be provided with a floor layout plan with all machines. Each machine has a status. Red colour machines are faulty machines, green colour machines are not occupied and are available to use and yellow colour machines are occupied meaning there is another student busy. Labs which are booked/ busy are grayed out and the user will not have access to the information of the machines in that particular lab.	
Pre-Conditions	User must be signed in. A floor layout plan of each one of the labs must be saved on the system. There must be at least one computer lab with at least one machine. The computer lab must not be booked or busy. The 'Find a Machine' button must exist somewhere on the student view screen	
Triggers	Student clicks on 'Find a Machine'	
Post-Conditions	A floor layout plan of a computer lab is displayed with the status of all machines in that particular lab shown and other relevant information	
Basic Flow of Events	1. Student clicks on 'Find a Machine' 2. A list of computer labs is displayed on screen 3. Student must click on a preferred lab 4. A layout of the lab is displayed with the status of computers shown	
Alternate Flow of events	User might try to click on a busy/ booked lab. However, they will not be able to because the option would not be available.	
Initial UI design		

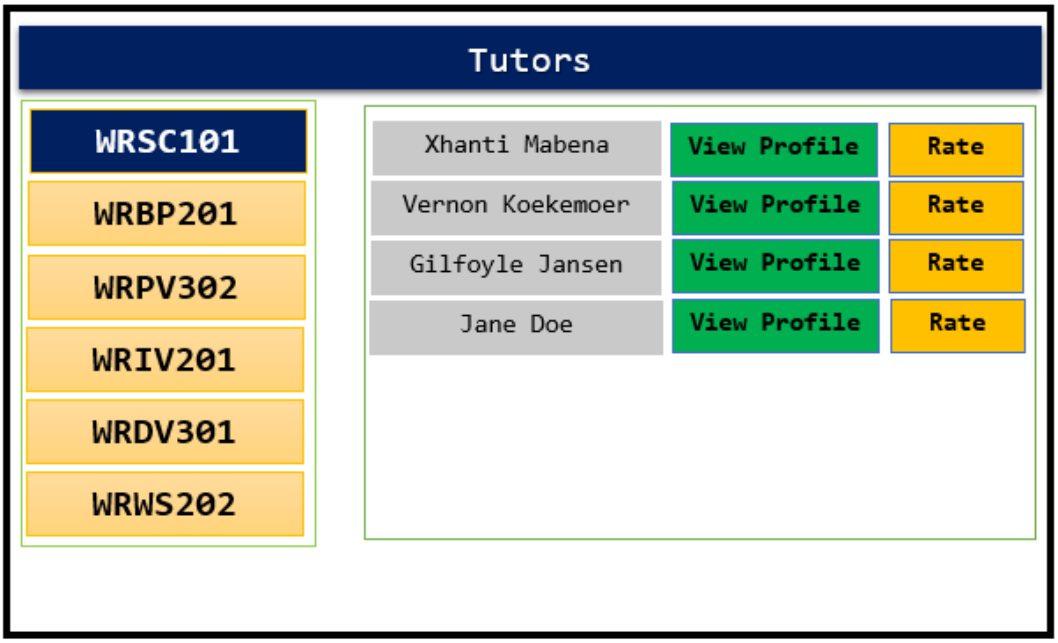

MACHINES
Lab 1
Lab 2
Lab 3
Lab 4
Lab 5
Lab 6
VACANT
31
OCCUPIED
50
FAULTY
2
WFRV101 - P
15:03:46 PM

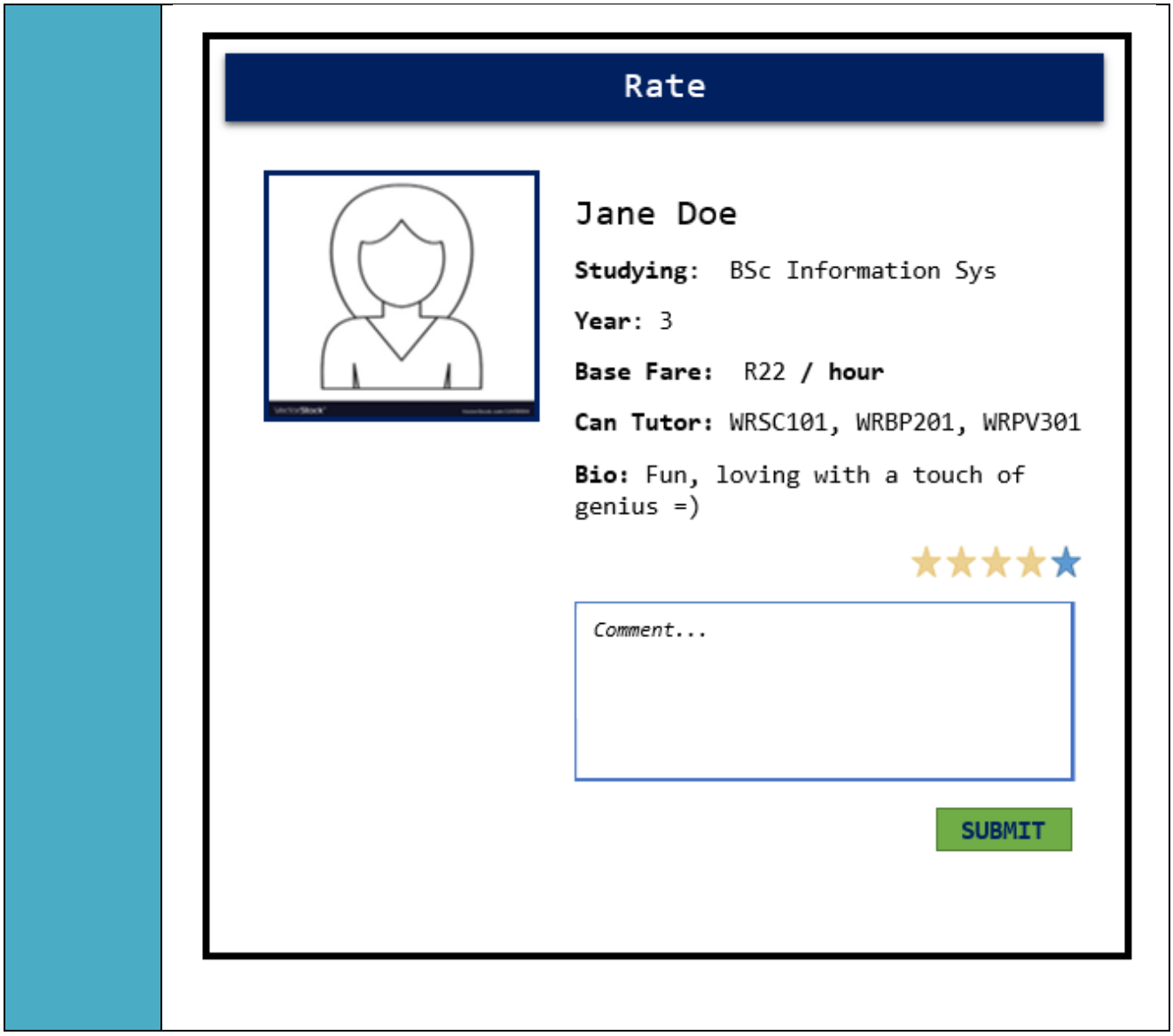
2.2.5 Designed by Emandleni Moyo

Use Case ID	Use Case Name
B0200	Find a Tutor
Primary Business Actors	**Other participating Actors**
Student	
Description	A student must be able to request a tutor on the system for some particular module.
Pre-Conditions	The student must be signed in. There must be at least one module. There must be at least one tutor. The 'Find a Tutor' button must exist somewhere on the student view screen.
Triggers	Student clicks on 'Find a Tutor'
Post-Conditions	A tutorial request is sent to the tutor.
Basic Flow of Events	1. Student clicks on 'Find a Tutor' button 2. Student chooses the module for which the tutorials are based 3. A list of available tutors appears on screen 4. Student clicks on 'View Profile' of a preferred Tutor 5. A0300 is invoked 6. Student clicks on 'Request' button on the profile view screen
Alternate Flow of events	If there are no tutors for the module, the user is presented with no data.
Initial UI design	

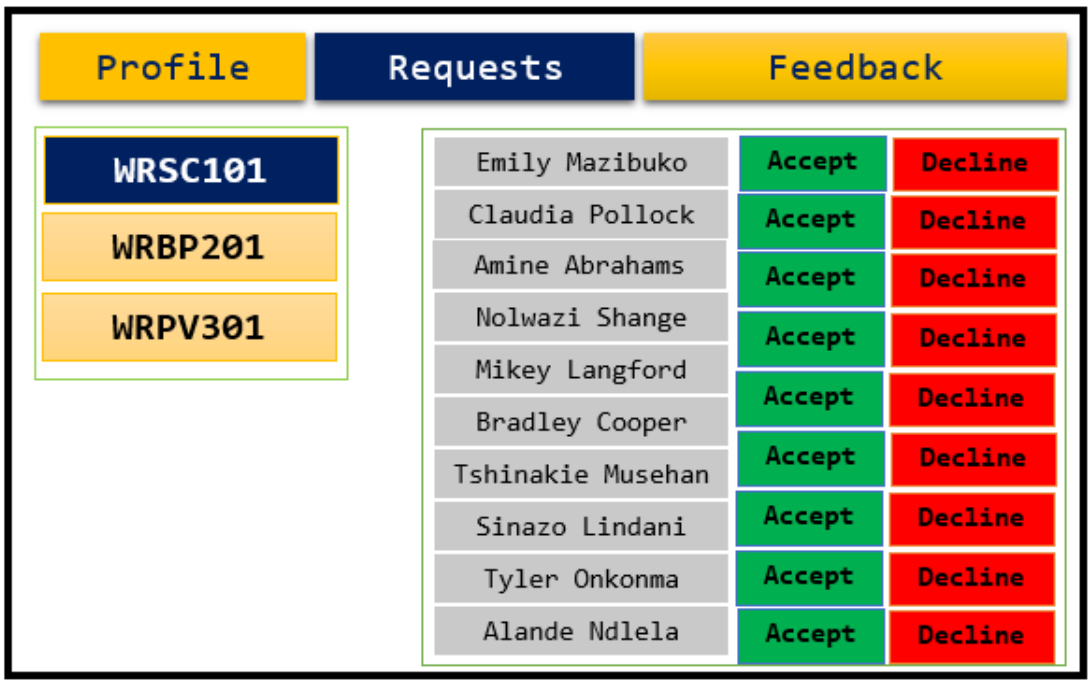

Tutors
WRSC101
WRBP201
WRPV302
WRIV201
WRDV301
WRWS202
Xhanti Mabena
View Profile
Rate
Vernon Koekemoer
View Profile
Rate
Gilfoyle Jansen
View Profile
Rate
Jane Doe
View Profile
Rate
Profile
Jane Doe
Studying: BSc Information Sys
Year: 3
Base Fare: R22 / hour
Can Tutor: WRSC101, WRBP201, WRPV301
Bio: Fun, loving with a touch of genius =)
REQUEST

2.2.6 Designed by Emandleni Moyo

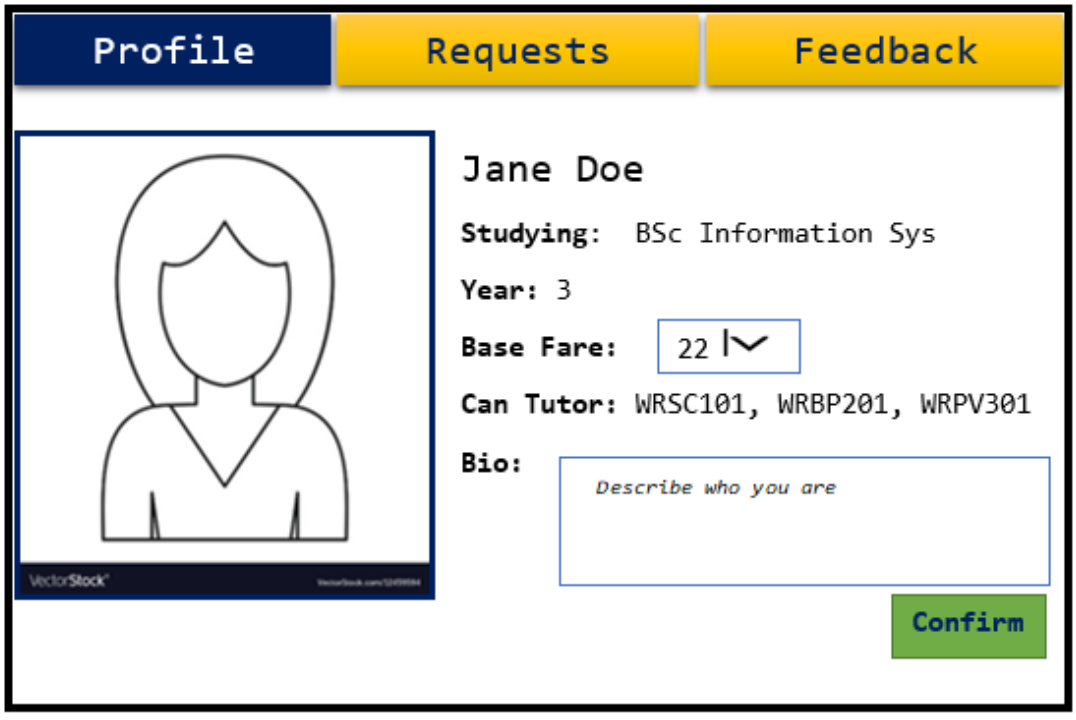
Use Case ID	Use Case Name	
B0300	Rate Tutor	
Primary Business Actors		**Other participating Actors**
Student		
Description	A student must be able to rate a tutor according to how they feel the service was. The student must provide a comment. The rating is visible to all users. The feedback is only visible to the concerned tutor.	
Pre-Conditions	Users must be signed in. A tutorial must have occurred i.e. the student must have had an accepted request	
Triggers	Student clicks on the 'Rate' button on the list of tutors	
Post-Conditions	Average rating of tutor is updated with the new rating factored in The student cannot rate the tutor again for that module	
Basic Flow of Events	1. Student clicks on 'Rate' button 2. The rate screen view appears and the user is able to adjust the range slider of stars 3. Student must also provide comment feedback	
Alternate Flow of events	If user does not provide a comment, the submit button does not become active.	
Initial UI design		


Rate
Jane Doe
Studying: BSc Information Sys
Year: 3
Base Fare: R22 / hour
Can Tutor: WRSC101, WRBP201, WRPV301
Bio: Fun, loving with a touch of genius =)
Comment...
SUBMIT

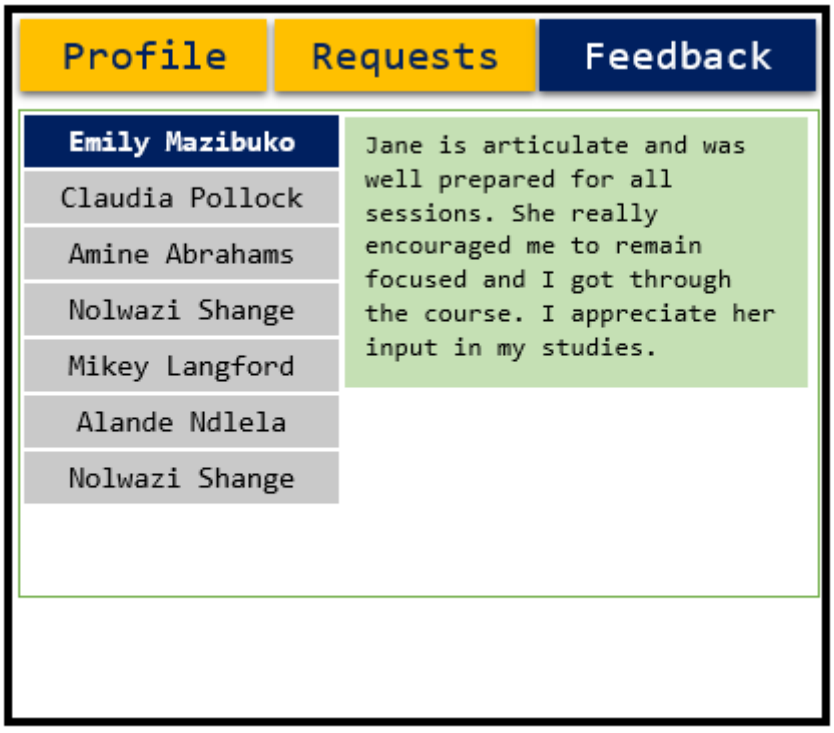
2.2.7 Designed by Emandleni Moyo

Use Case ID	Use Case Name
C0100	Accept/ Decline Requests
Primary Business Actors	**Other participating Actors**
Tutor	
Description	A tutor can either accept or decline a tutorial request from a student.
Pre-Conditions	Tutor must be registered Tutor must be logged onto their account Tutor must have received a request from a student for a tutorial
Triggers	The tutor has to accept or decline a request from a student.
Post-Conditions	Tutor request outcome changes and the student is able to rate the tutor immediately
Basic Flow of Events	1. A0200 is invoked and the tutor lands on the tutorial requests screen 2. Tutor selects the module for which requests are made. 3. Student request is either accepted/ declined for the tutorial 4. The request status changes based on the decision made
Alternate Flow of events	In case user does not have requests, they will be presented with no data.
Initial UI design	

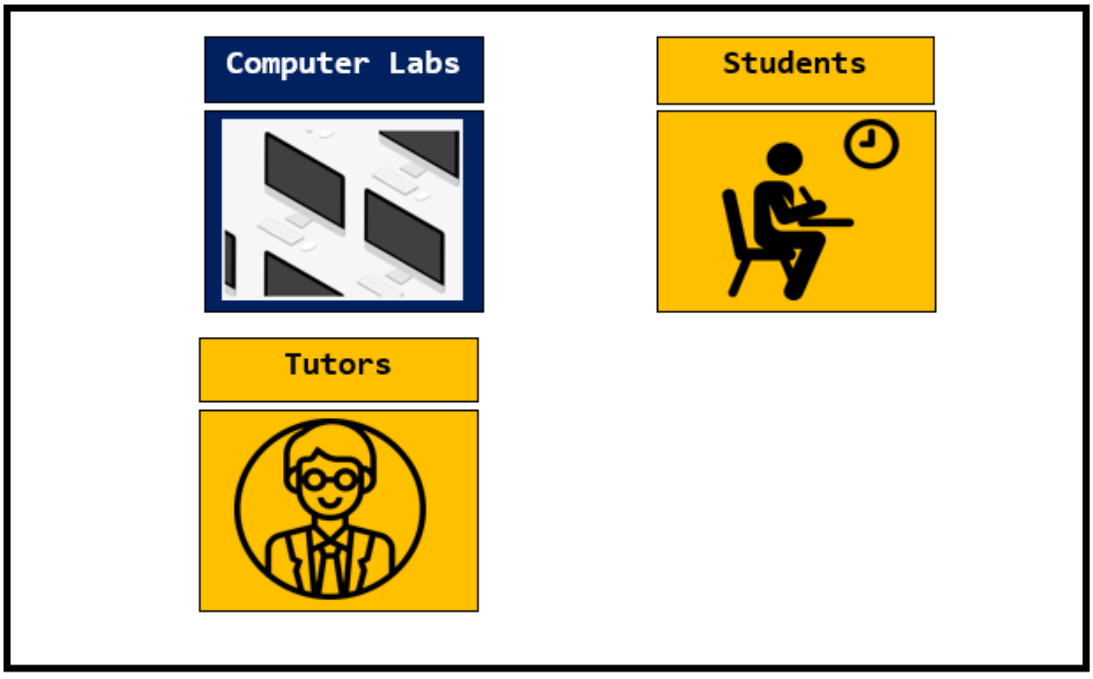
2.2.8 Designed by Emandleni Moyo

Use Case ID	Use Case Name	
C0200	Edit Profile	
Primary Business Actors		**Other participating Actors**
Tutor		
Description	A tutor can either update or review information on their profile.	
Pre-Conditions	Tutor must be registered Tutor must be logged onto their account	
Triggers	The tutor will choose to update or review the information on their profile.	
Post-Conditions	If changes are made to the tutor profile, fields are updated. The tutor can continue to review the profile, until they navigate to a different part of the system.	
Basic Flow of Events	1. A0200 is invoked 2. The tutor lands on their profile screen 3. Navigate to Requests tab 4. Tutor selects the module for which requests are made 5. Student request is either accepted/ declined for the tutorial 6. The request status changes based on the decision made	
Initial UI design		

2.2.9 Designed by Emandleni Moyo

Use Case ID	Use Case Name	
C0300	View Feedback	
Primary Business Actors		**Other participating Actors**
Tutor		
Description	A tutor is able to see the feedback that their provided.	
Pre-Conditions	Tutor must be registered Tutor must be logged onto their account The tutor must have accepted a request from the student from which the feedback is from	
Triggers	The tutor must select on the tab with feedback	
Post-Conditions	The tutor is able to view their feedback	
Basic Flow of Events	1. A0200 is invoked 2. The tutor lands on their profile screen 3. Navigate to Feedback tab	
Alternate Flow of events	In case user does not have feedback, they will be presented with no data.	
Initial UI design		

2.2.10 Designed by Emandleni Moyo

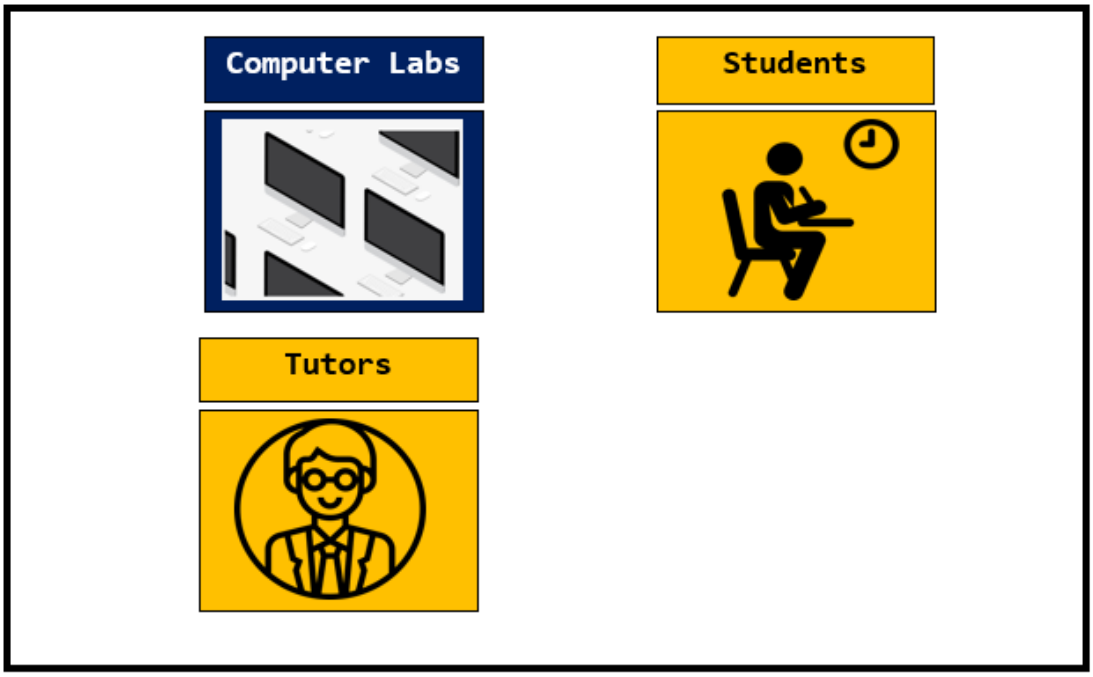
Use Case ID	Use Case Name
D0100	Manage Computer Labs
Primary Business Actors	**Other participating Actors**
Admin	
Description	Administrators have the ability to maintain computer labs within the system. Administrators have the authority to create, view, alter and/or delete computer labs, schedule, machines and the table layout plan of a computer lab.
Pre-Conditions	The user must be registered on the system. The user must be logged onto the system. The user must be of type admin.
Triggers	A new computer lab may need to be added or deleted A computer lab's information may need to be updated
Post-Conditions	A computer lab has been added, updated or deleted A computer labs' schedule has been added, updated or deleted.
Basic Flow of Events	1. The administrator home screen is displayed 2. The user clicks on "Computer Labs" 3. A list of labs appear together with options to create, update or delete 4. The user must enter new data or manipulate existing data to enable the 'Save' button 5. The user must 'Save' to commit changes onto the system
Initial UI design	

Lab Number	Description	Capacity	Number of Occupied Seats	Number of Vacant Seats	Status
2211	Lab 1	55	54	1	Free
2212	Lab 2	85	23	62	Busy
2213	Lab 3	40	21	19	Free
2214	Lab 4	35	31	4	Booked
2215	Lab 5	20	19	0	Busy
2216	Lab 6	80	17	63	Free

Lab Number	2211
Description	Lab 1
Capacity	55
Number of Occupied Seats	54
Number of Vacant Seats	1
Status	Free

New | Delete | Refresh | Save

2.2.11 Designed by Emandleni Moyo

Use Case ID	Use Case Name	
D0200	Manage Tutors	
Primary Business Actors		**Other participating Actors**
Admin		
Description	Administrators have the ability to maintain tutor information. Administrators have the authority to create, view, alter and/or delete tutor information.	
Pre-Conditions	The user must be registered on the system The user must be logged onto the system The user must be of type admin	
Triggers	Tutor information may need to be verified, altered and/ or deleted	
Post-Conditions	A tutor has been added, updated or deleted	
Basic Flow of Events	1. The administrator home screen is displayed 2. The user clicks on “Tutors” 3. A list of tutors appear together with options to manipulate the data 4. The user must enter new data or manipulate existing data to enable the ‘Save’ button 5. The user must ‘Save’ to commit changes onto the system	
Initial UI design		

Username	Password	First Name	Last Name	Qualification Code	Base Charge	Year	Bio
s21111111	isJuicefree?23	Xhanti	Mabena	40005	25	3	Great chap…
s21111112	bugsRbad	Vernon	Koekemoer	40001	32	2	I am...
S21111113	%@iLoveSuzie<3	Gilfoyle	Jansen	40005	19	3	Very smart guy…
s21111114	1234panJD	Jane	Doe	40003	22	3	Fun loving with…

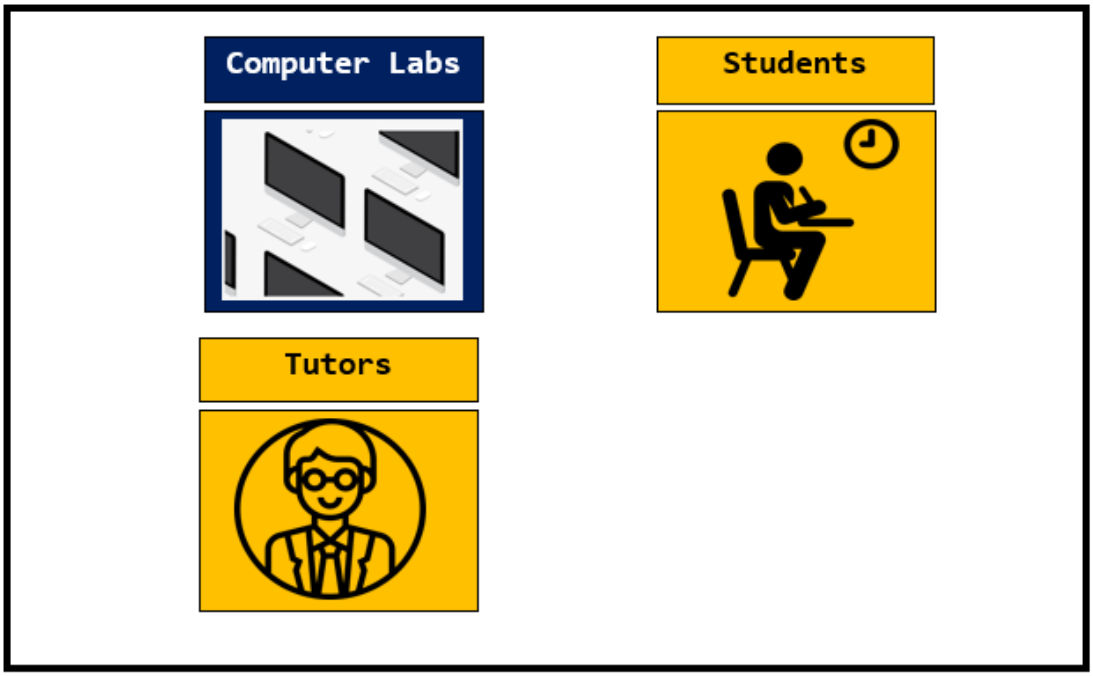
Username	s21111114
Password	1234panJD
First Name	Jane
Last Name	Doe
Qualification Code	40003
Base Charge	22
Year	3
Bio	Fun loving with a touch of genius =)

New **Delete** **Refresh** Save

2.2.12 Designed by Emandleni Moyo

Use Case ID	Use Case Name
D0300	Manage Students
Primary Business Actors	**Other participating Actors**
Admin	
Description	Administrators have the ability to maintain student information. Administrators have the authority to create, view, alter and/or delete students.
Pre-Conditions	The user must be registered on the system The user must be logged onto the system The user must be of type admin
Triggers	Student information may need to be verified, altered and/ or deleted
Post-Conditions	A student has been added, updated or deleted
Basic Flow of Events	1. The administrator home screen is displayed 2. The user clicks on “Students” 3. A list of students appear together with options to manipulate the data 4. The user must enter new data or manipulate existing data to enable the ‘Save’ button 5. The user must ‘Save’ to commit changes onto the system

Initial UI design



Username	Password	First Name	Last Name
s2211111	lameFameCame…	Emily	Mazibuko
s2212111	33THRASHERS…	Claudia	Pollock
s2213111	goTeam$$$$	Amine	Abrahams
s2214111	Ih8f1sh!	Nolwazi	Shange
s2215111	F1shH8sU2	Mikey	Langford
s2216111	newLifeOldMe…	Bradley	Cooper
s2217111	Bec&auseUlisp	Tshinakie	Musehane
s2218111	sinazobabe	Sinazo	Lindani

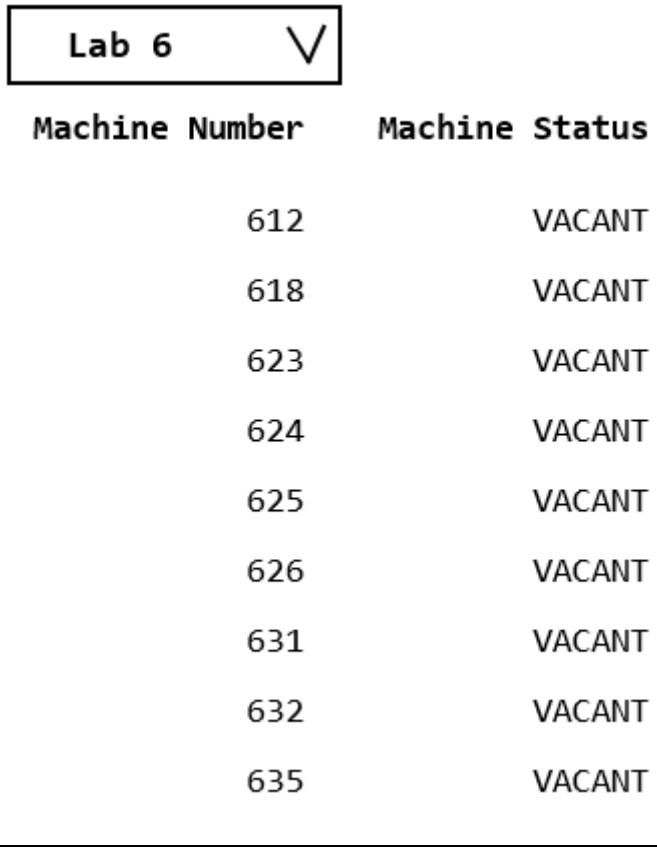
Username	s2218111
Password	Sinazobabe
First Name	Sinazo
Last Name	Lindani

New **Delete** **Refresh** Save

2.2.13 Designed by Emandleni Moyo

Use Case ID	Use Case Name
D0400	Report 1: Determine the number of vacant machines within a specific lab

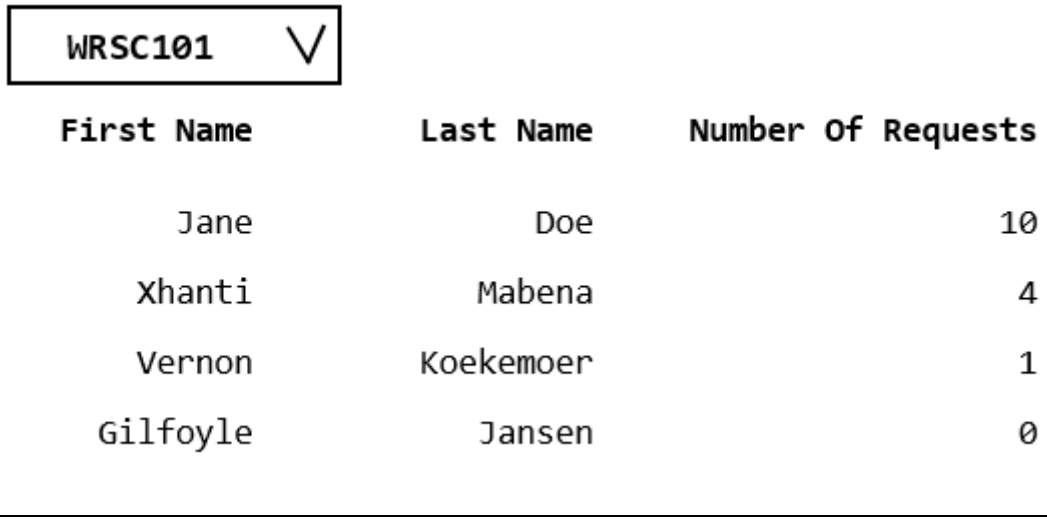
Primary Business Actors	Other participating Actors
Admin	

Description	This use case creates a report for a list of vacant machines within a specific lab
Pre-Conditions	Admin must be logged onto the system.
Triggers	User wanted to find out which machines are currently vacant
Post-Conditions	A report containing the list of vacant machine numbers in a particular lab
Basic Flow of Events	1. Admin enters query by selecting the computer lab from a drop-down box 2. System produces report.
Initial UI design	

2.2.14 Designed by Emandleni Moyo

Use Case ID	Use Case Name
D0500	Report 2: Determine who is the most requested tutor

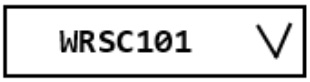
Primary Business Actors	Other participating Actors
Admin	

Description	This use case creates a report for a list of tutors sorted according to their number of requests for a specific module.
Pre-Conditions	Admin must be logged onto the system
Triggers	User wants to determine the most requested tutors according to a module
Post-Conditions	A report containing the highest requested tutor for a module will be emailed to students.
Basic Flow of Events	1. Admin enters query by selecting the module from a drop-down box. 2. System produces report.
Initial UI design	

2.2.15 Designed by Emandleni Moyo

Use Case ID	Use Case Name
D0600	Report 3: Determine the number of requests made for a module on the system

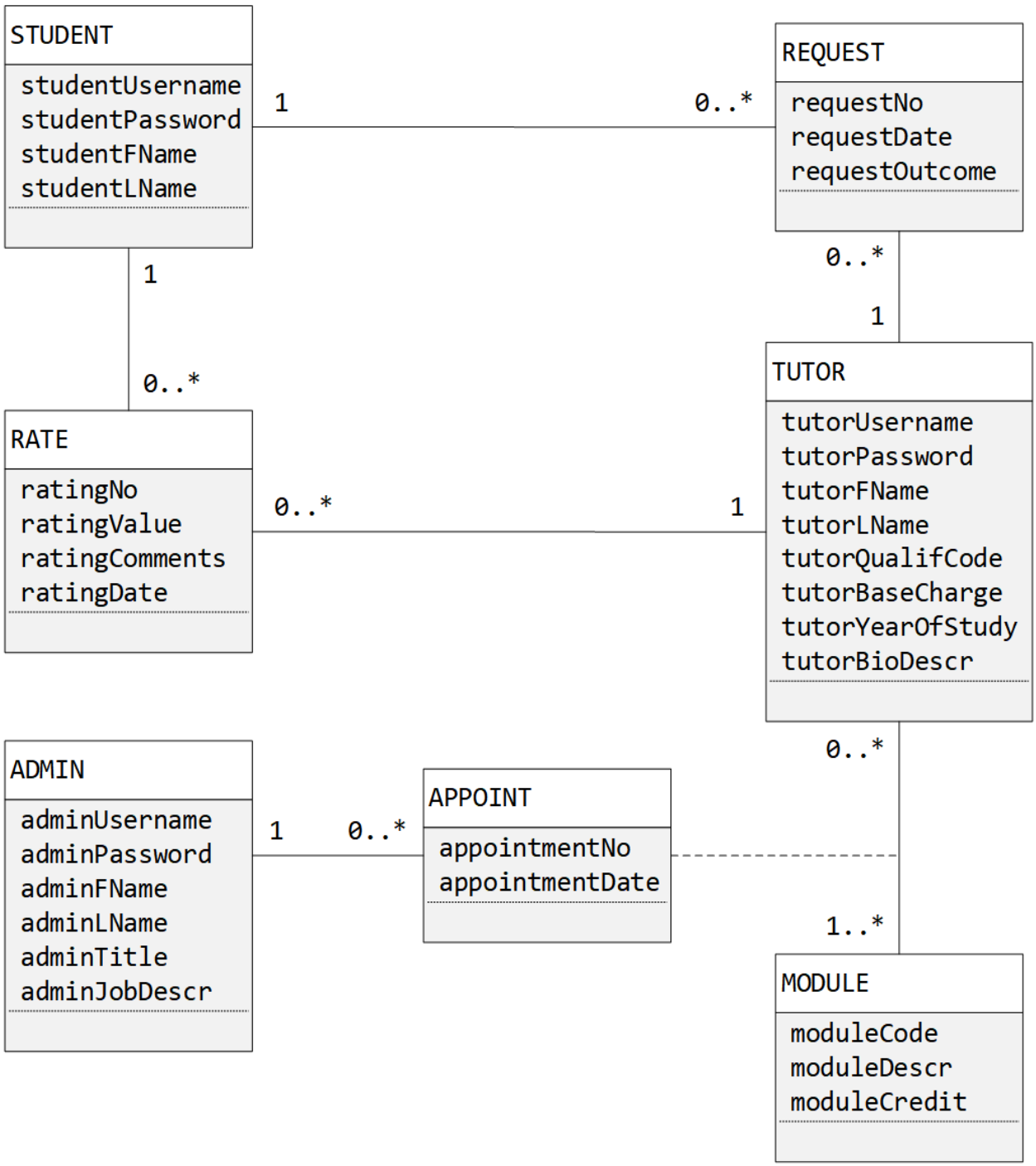
Primary Business Actors	Other participating Actors
Admin	

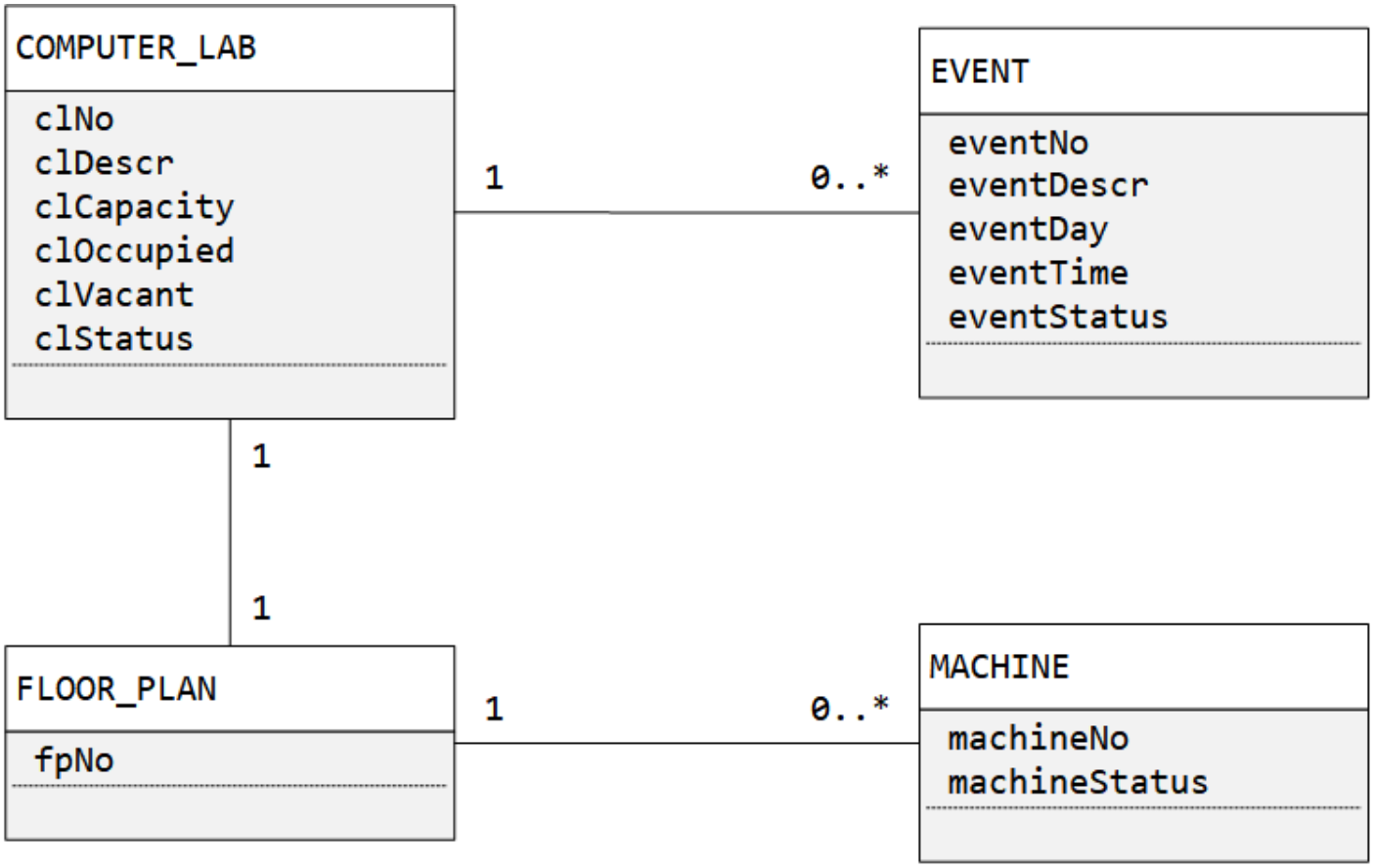
Description	This use case creates a report for a list of requests made for a specific module
Pre-Conditions	Admin must be logged onto the system
Triggers	User wants to determine the number of requests made for a module on the system
Post-Conditions	A report containing the list of requests made for a module in descending order of requests
Basic Flow of Events	1. Admin enters query by clicking 2. System produces report
Initial UI design	

Request Number	Student Username	Tutor Username	Request Date	Request Outcome
1	s22111111	s23111111	03/02/2006	PENDING
2	s22111112	s23111112	04/02/2006	PENDING
3	s22111113	s23111113	04/02/2006	ACCEPTED
4	s22111114	s23111114	07/02/2006	DECLINED

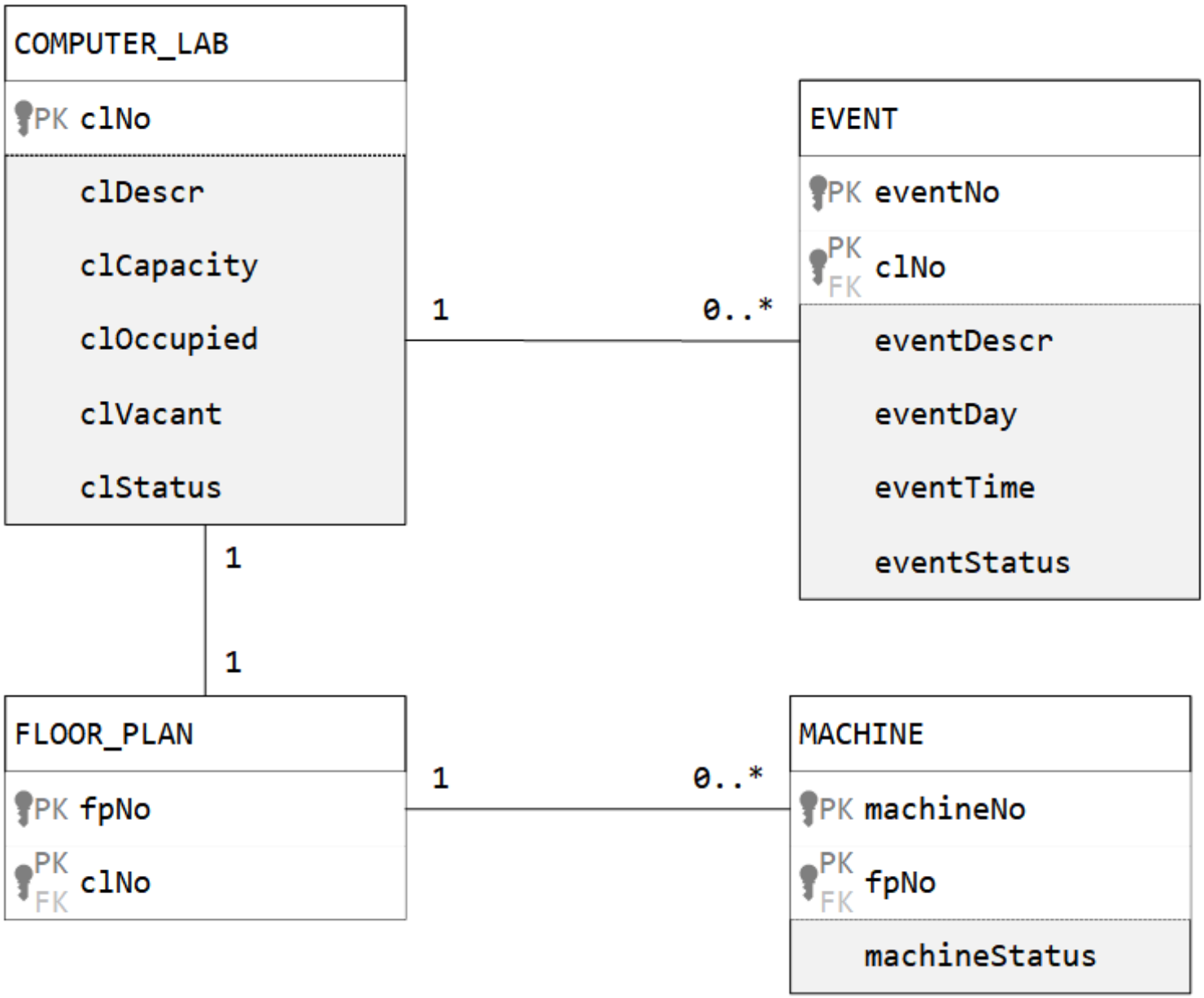
3 DATA REQUIREMENTS

3.1 Domain Class Diagram




COMPUTER_LAB
clNo
clDescr
clCapacity
clOccupied
clVacant
clStatus
1
0..*
EVENT
eventNo
eventDescr
eventDay
eventTime
eventStatus
1
1
FLOOR_PLAN
fpNo
1
0..*
MACHINE
machineNo
machineStatus

3.2 Implementation Ready Class Diagram


COMPUTER_LAB
PK clNo
clDescr
clCapacity
clOccupied
clVacant
clStatus
EVENT
PK eventNo
PK FK clNo
eventDescr
eventDay
eventTime
eventStatus
1
0..*
1
1
FLOOR_PLAN
PK fpNo
PK FK clNo
1
0..*
MACHINE
PK machineNo
PK FK fpNo
machineStatus