SCAR

Siena College Accurate Registration
Software Preliminary Design

Requested by:

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Contents

Appendix

Chapter 1

Preliminary Design

1.1 Product Overview and Summary

Siena College Accurate Registration (SCAR) will be a comprehensive reconstruction of Siena College's current guest registration system. Through a web based program current Siena students will be able to register guests, access a database of previously registered guests, and receive confirmation of registration in an efficient and timely manner. Guests will receive a unique Guest Registration IDentification (GRID) number, be able to use a driver's license to populate the online guest registration form, and receive confirmation quickly and efficiently. Overnight Hosts will receive an email saying that the overnight host has been requested to host a guest and will have the ability to either deny or accept the request to be an overnight host. Public Safety will be able to search a database (in multiple different ways) to access current guest information in an efficient and aesthetically pleasing manner. The system administrator will have complete control over Siena College guest registration and in doing so will be able to shut down registration at any time, lower the number of guests able to be registered, and the system administrator will also have all of the abilities that public safety has.

1.2 User Case Narratives

1.2.1 – System Administrator User Case Narrative

The administrator for SCAR will be the Director of Public Safety, and anyone else the Director of Public Safety is willing to share the account with. The administrator will have the capability to enter into SCAR with a specific administrator account. Once logged in the administrator will have several options. The administrator will be able to do quick searches through the database for any students or guests currently in the database. The administrator will be able to access all personal information on any particular student or guest. The administrator may alter or update any information on any particular student or guest. The administrator will also have the capability to add or remove any students or guests currently in the system database. If the administrator removes a student from the database all information regarding that student will be removed from the database. The administrator will also be able to place or remove bans on the students prohibited to register guests. The administrator will have the capability to shut Guest Registration down. The administrator may also ban guests, preventing a guest from being registered by any student. The administrator will also have the capability to create Public Safety accounts for the system. The administrator may log out at any time.

1.2.2 – Public Safety User Case Narrative

The term Public Safety includes the Public Safety Officers, the secretaries, and any other staff member who works for the Public Safety Department. Public Safety will be able to swipe incoming guest's driver's license at the designated Registration Station, which is currently Kiernan Hall, to fill out the Guest information fields of the Registration form. Public Safety will receive notifications if the guest has been banned from campus or restricted access. If there are no prior offenses, then the guest's information will be saved in a database. After a successful registration, Public Safety will receive a confirmation message with a verification number for the Guest Registration case. With the verification number, Public Safety will be able to pull up a guest's information at any time from the database. If the guest returns to stay at Siena at a different time period, Public safety will be able to pull up the information on the guest, and a second registration will not be necessary. Public Safety officers will be provided with a login name and password to access the database system. Using a Public Safety account, Public Safety officers will be capable of searching the SCAR database for students or guests. Public Safety officers will be able to access all of the personal information of all students and guests in the database for the purpose of verifying the identity of any given student or guest.

1.2.3 - Student

Students will be responsible for registering guests using SCAR. Students will register guests either online via the SCAR web form or in person with a Public Safety officer in Kiernan Hall.
If working online, a student will sign into the SCAR system using a username and password provided by Siena College. The student's information will be filled out automatically based on the username the student provides. If the student's guest is a first time guest, the student will have to complete all fields on the SCAR web form regarding the guest's personal and emergency contact information. If the student's guest is a returning guest, the student will be able to select the guest's name from a drop-down menu and the SCAR web form will automatically be populated with the guest's information. The student will then print the confirmation form generated by the SCAR web form and instruct the guest to carry that form at all times while on the Siena College campus.

If a student registers a guest with a Public Safety officer in Kiernan Hall, the registration process is different. The student will accompany the guest to Kiernan Hall. The Public Safety officer will scan the student's Siena Identification Card. The Public Safety officer will then scan the guest's government identification card. The guest will then be required to fill out an emergency contact form. The guest will then be provided with a confirmation form to carry while on the Siena College Campus. If a student attempts to register a guest banned by an administrator, the SCAR system will automatically reject the student's attempt.

1.2.4 - Guest

Guests can be registered in any one of two ways. Guests may be registered online by a student sponsor using SCAR's web form. Guests may also be registered by accompanying a student sponsor to Kiernan Hall and registering in person with a Public Safety officer. If a guest is registered online, a student sponsor must manually enter all of the guest's information into SCAR's web form. If a guest is registered by a Public Safety officer, the guest's information is gathered by scanning the guest's government identification (driver's license). The guest will then fill out only an emergency contact form. Once a guest is registered, the guest's information is stored in a database. If a guest has been previously registered by a student, a student can simply select the guest's name on the SCAR web form and the guest's personal information will automatically populate the required fields. Once a guest is registered, the guest will be given a confirmation form which the guest will carry in order to verify the guest's identity. If a guest is registered online, a confirmation form will be delivered to the guest via email. If a guest has a vehicle on campus, a portion of the confirmation form will be detached and left on the dashboard of the guest's vehicle to use as a temporary parking pass.

1.2.5 – Overnight Host

The term Overnight Host includes any student who will be hosting a guest that has been granted permission to stay on Siena campus overnight. Siena Life Policy (pg 55 of the 2012-2013 issue) does not allow a student to register quest of a different gender overnight unless the guest has an overnight host of the same gender. An overnight host will be selected by the student and identified during the registration process. The overnight host will receive a confirmation email immediately following the registration of the guest being hosted.

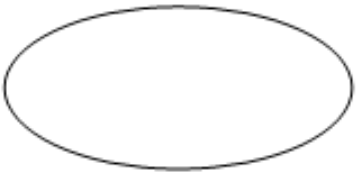
1.3 UML Diagrams

1.3.1 – UML Diagram Legend

Use Case Diagram Legend

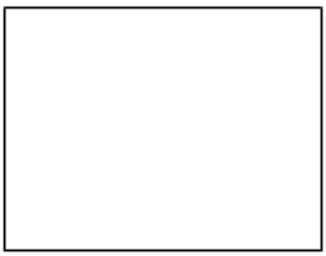
Use Case diagrams use symbols as a means to represent how different users interact with a system. The symbols included in D&C Solutions' Use Case diagram are Actors, Processes, Interactions, and the System Boundary. This legend will explain the significance of each symbol.

Actor- Represents the human and non-human entities that interact with the system. Human actors are displayed on the left side of the diagram while Non-Human actors are displayed on the right side of the diagram. The names of the actors are written below the symbol.



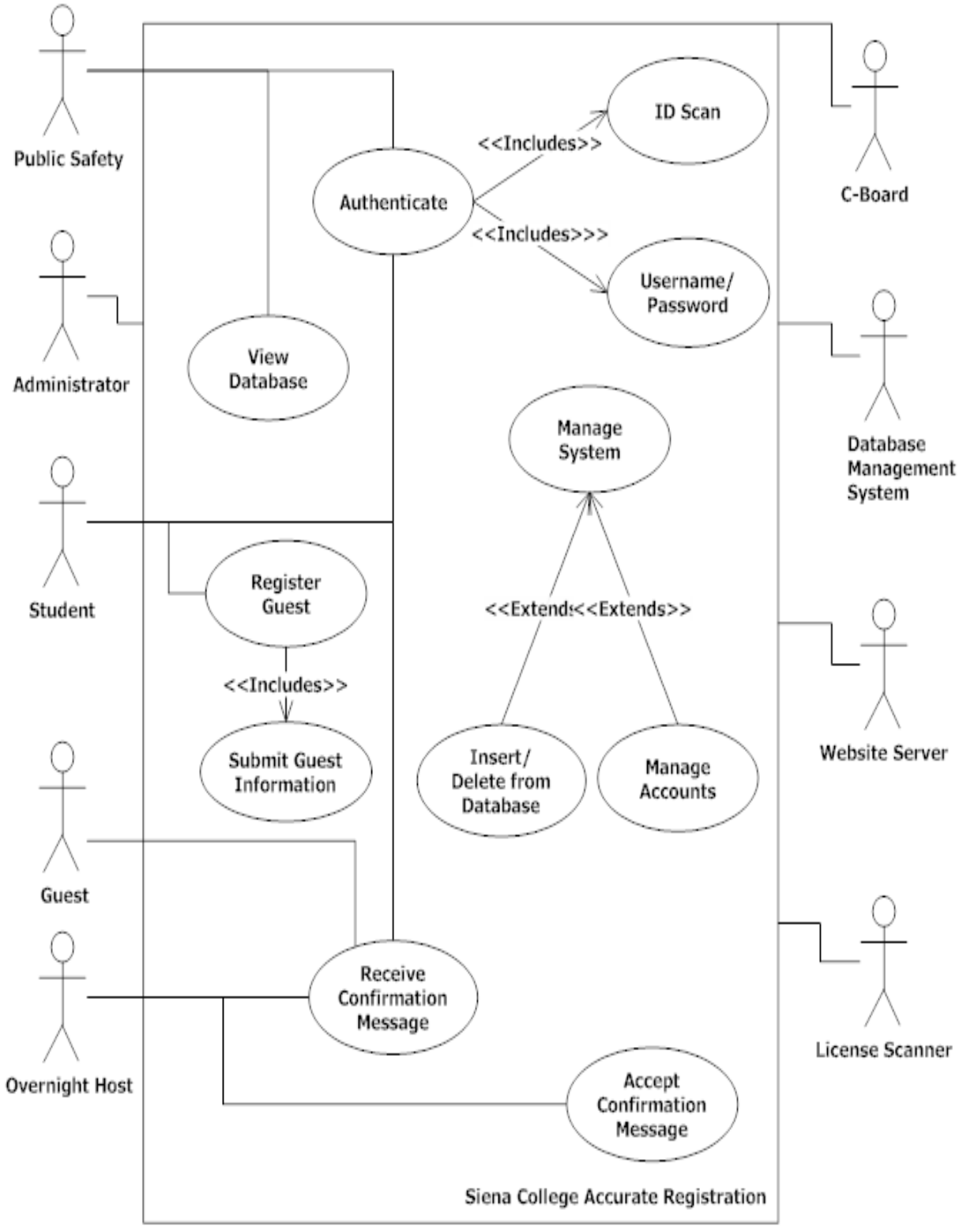
Process- Represents an action performed by the system. Processes are labeled within the symbol.

Interaction- Represents the ability of an actor to perform a process within the system. An actor has access to a process if there is an interaction directly linking the process and the actor symbols. If an interaction is drawn between an actor and the system boundary, it represents an interaction between that actor and all of the processes within the system.



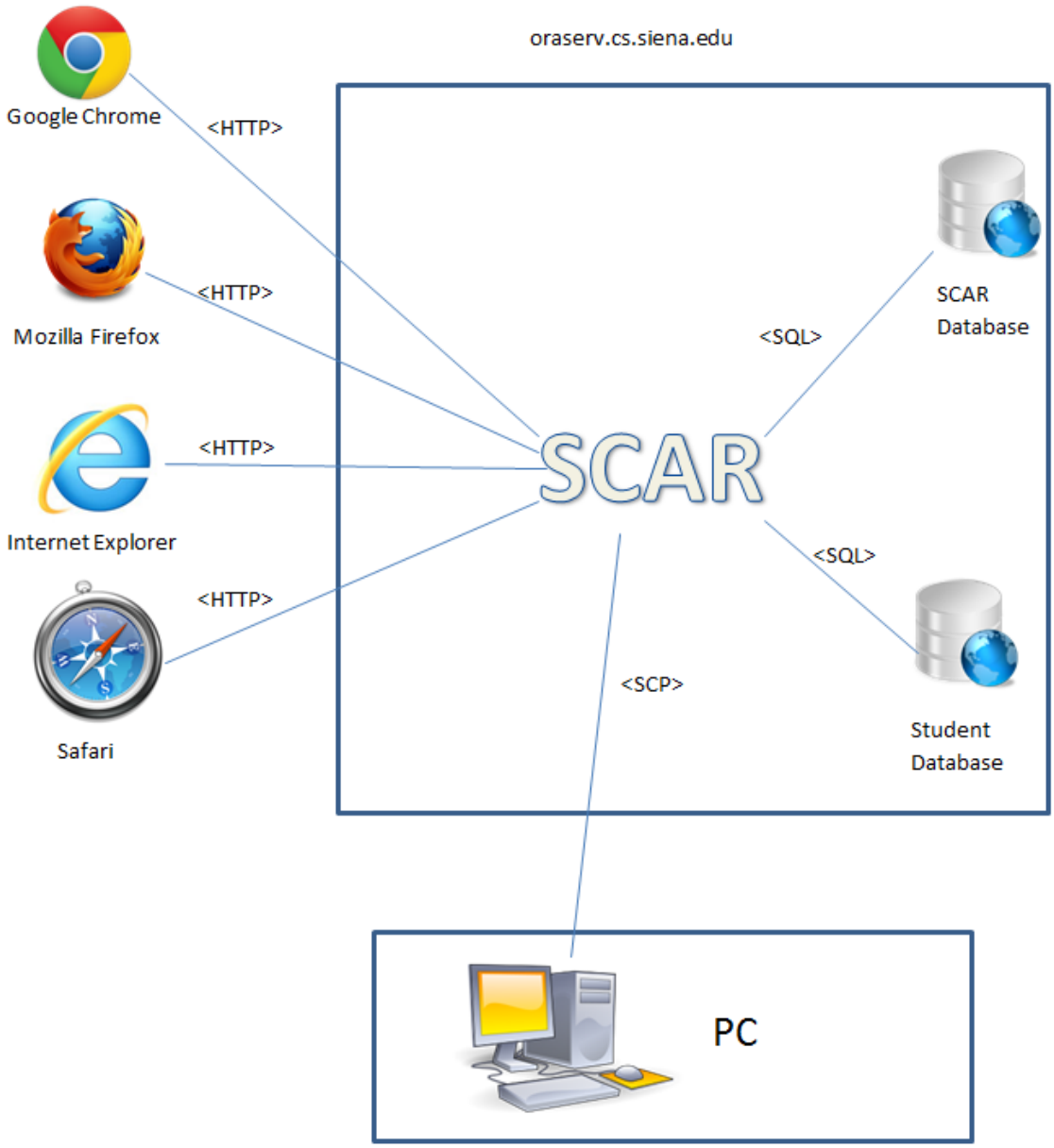
System Boundary- Represents the limitations of the system. All processes of the system are contained within the system boundary. All outside entities are represented outside the system boundary.

1.3.2 – UML Use Case Diagram for SCAR



1.3.3 – UML Deployment Diagram

Deployment Diagrams model the deployment of processing nodes and components that run on those nodes. The Deployment Diagram for SCAR shows the browsers expected to interact with SCAR via HTTP, the databases to store data and be queried by SQL, and the development environment that connects to SCAR via SCP.



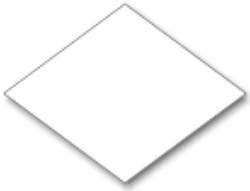
1.3.4 – UML Activity Diagrams

Start Node-The Start Node marks the beginning of the activity.

End Node-The End Node marks the final resting state of the activity.

Process- The process is an action performed in the activity diagram.

Data input- This is the data being passed to the process.



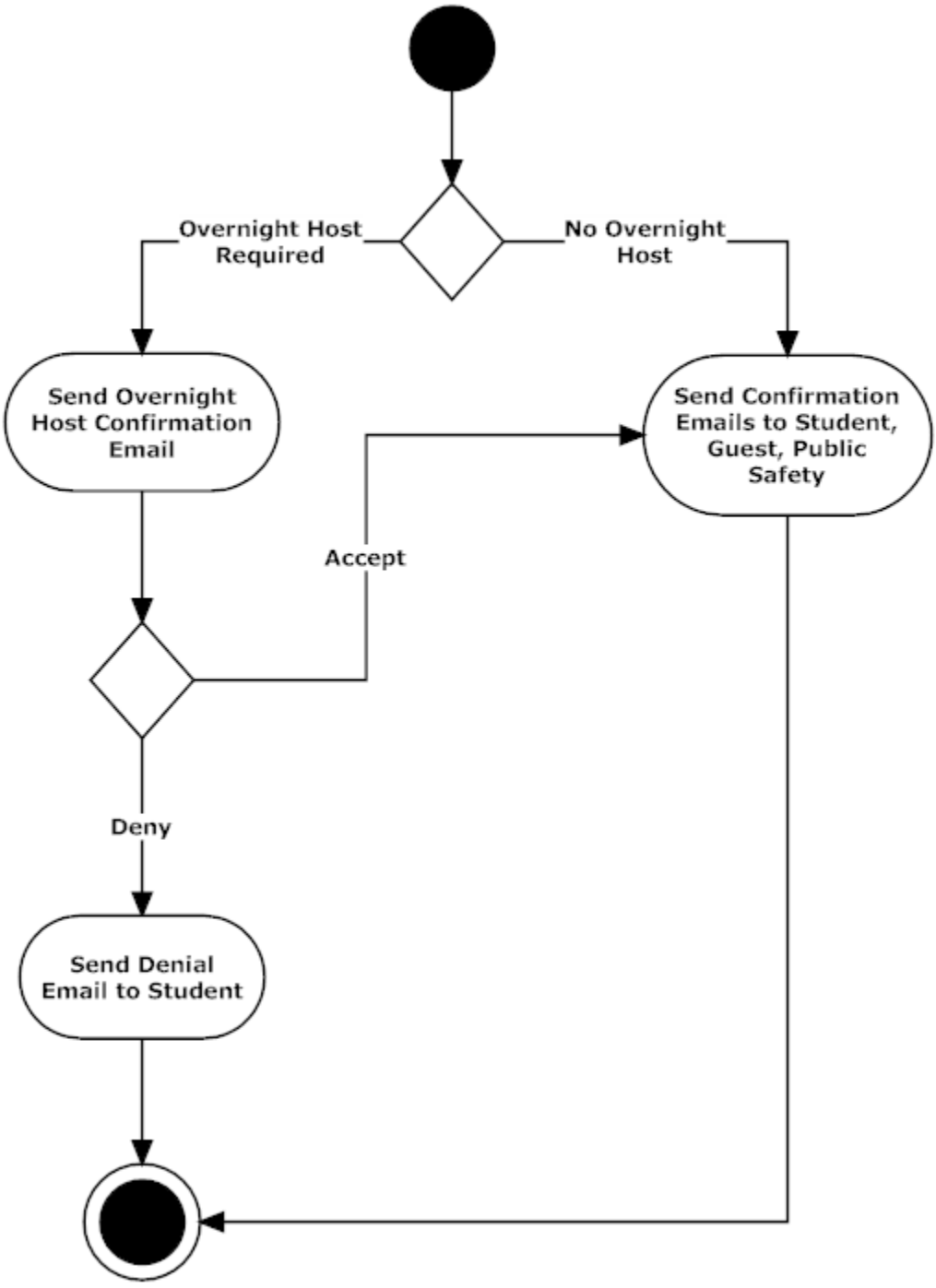
Decision- This marks a split in decision in the activity.

Connector- This Connector joins splits in the activity diagram that lead to the same point or splits an activity in to separate paths.

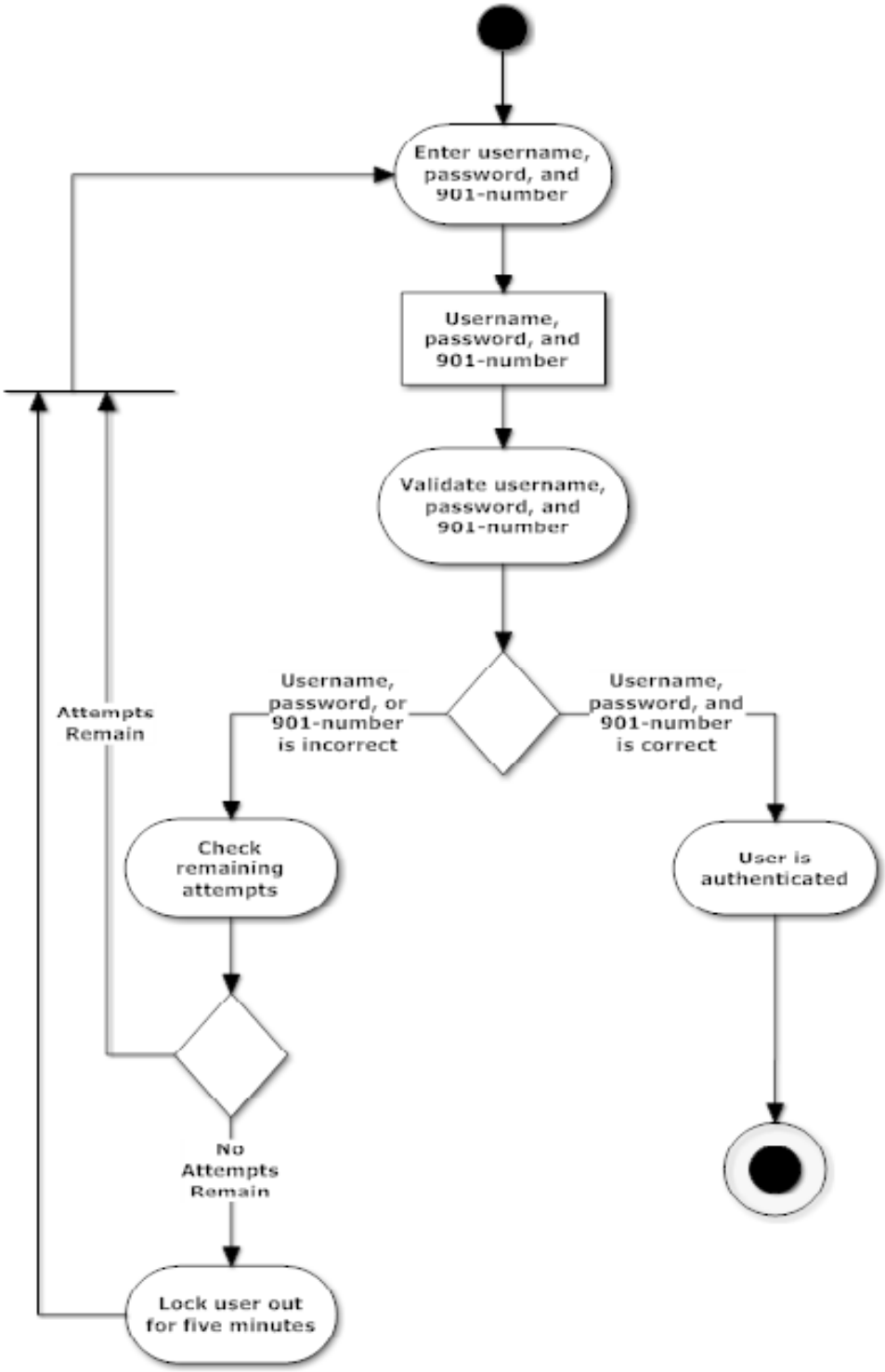
Flow- These arrows mark the flow of activity.

1.3.5 – UML Activity Diagrams

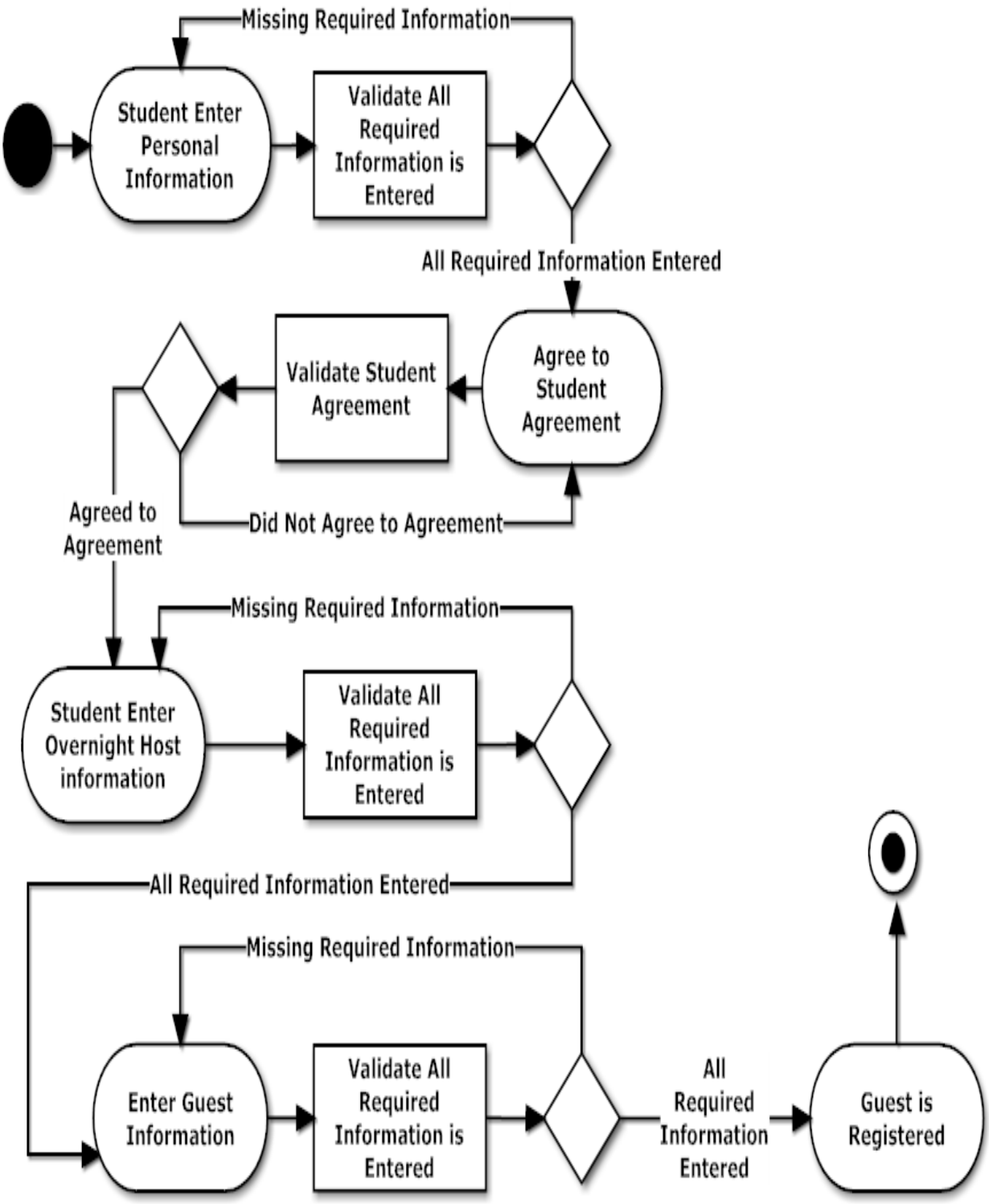
CONFIRM



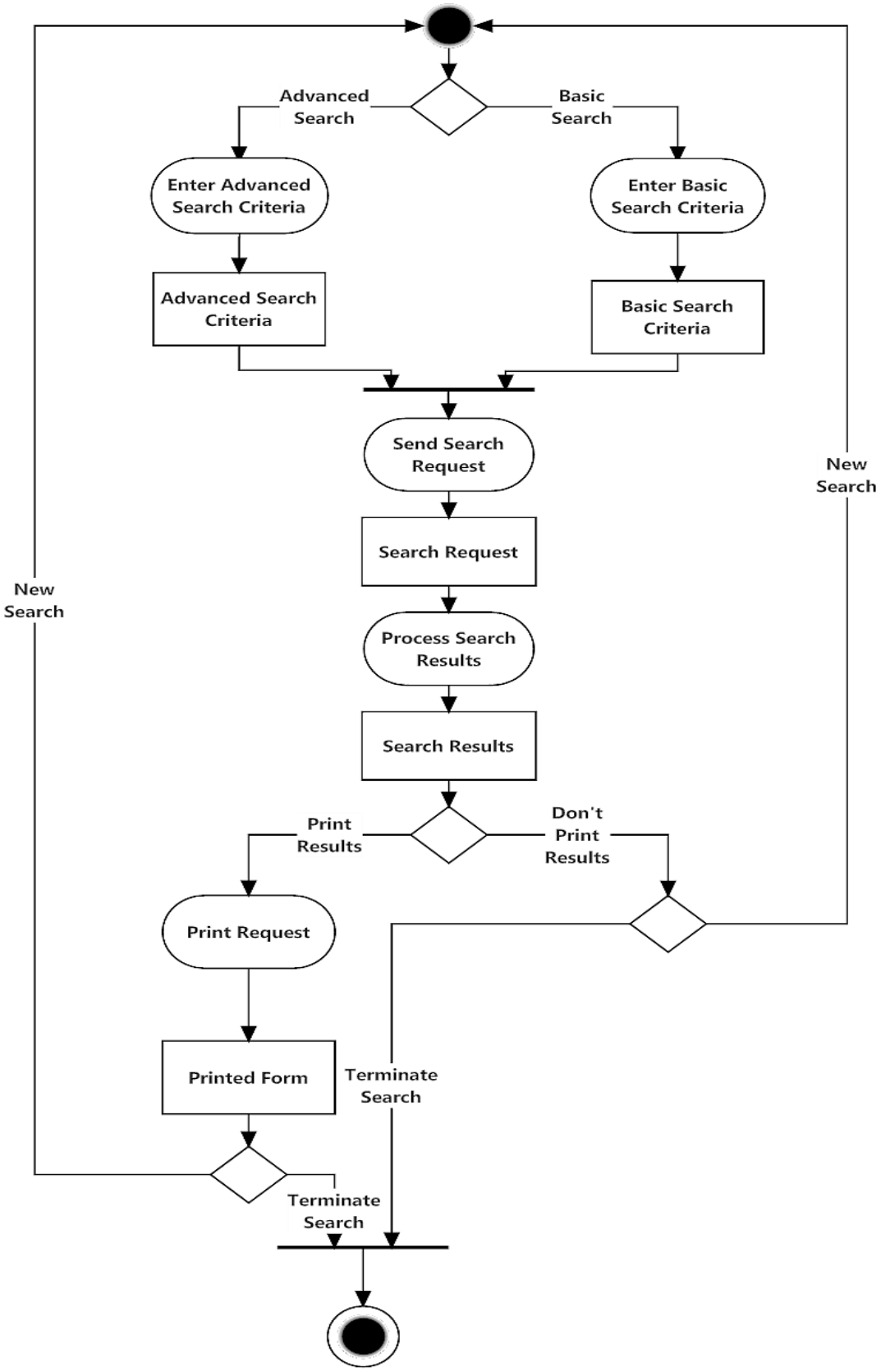
STUDENT AUTHENTICATE



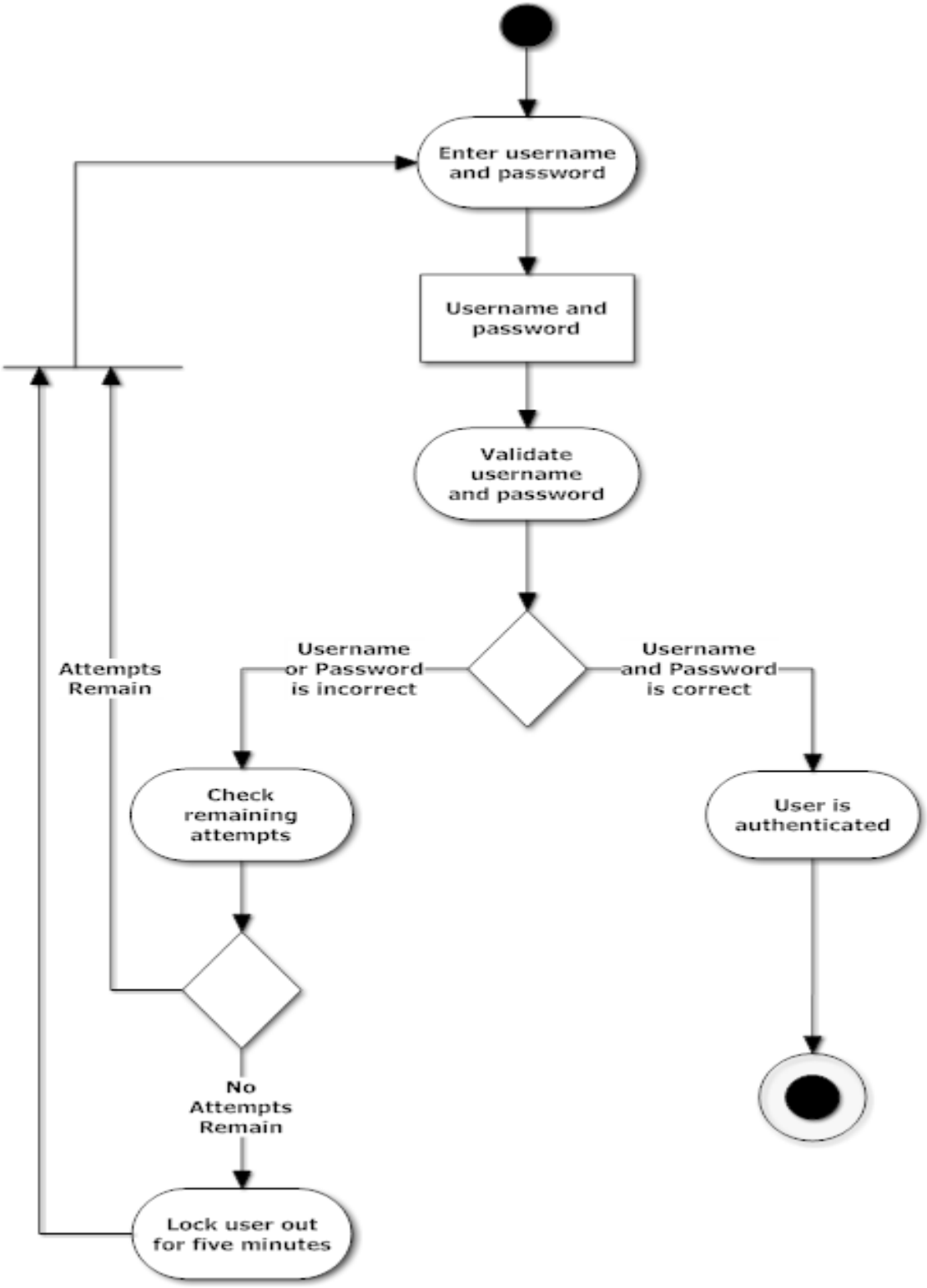
REGISTER


Missing Required Information
Student Enter Personal Information
Validate All Required Information is Entered
All Required Information Entered
Agree to Student Agreement
Validate Student Agreement
Agreed to Agreement
Did Not Agree to Agreement
Missing Required Information
Student Enter Overnight Host information
Validate All Required Information is Entered
All Required Information Entered
Missing Required Information
Enter Guest Information
Validate All Required Information is Entered
All Required Information Entered
Guest is Registered

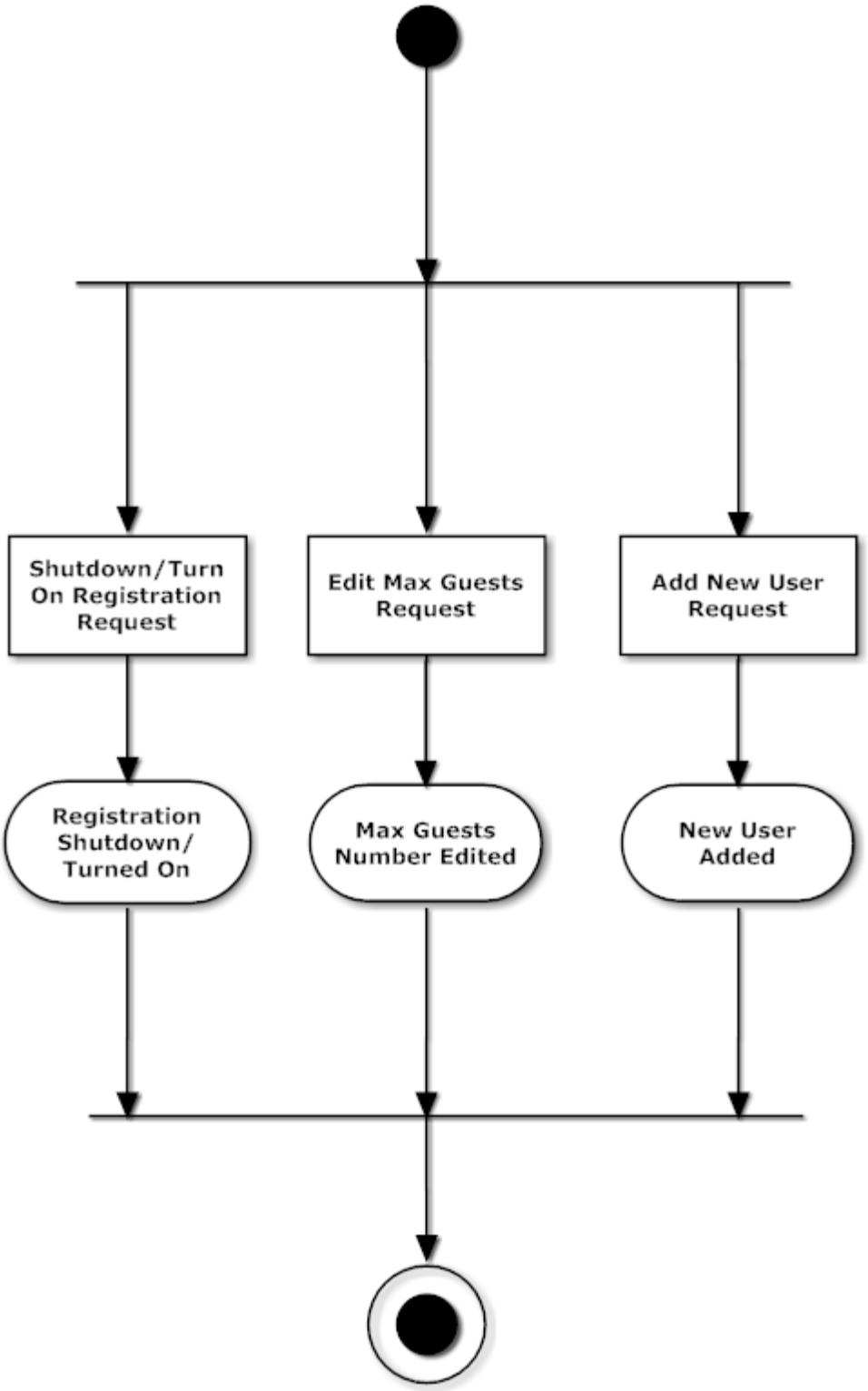
SEARCH


Advanced Search
Basic Search
Enter Advanced Search Criteria
Enter Basic Search Criteria
Advanced Search Criteria
Basic Search Criteria
Send Search Request
Search Request
Process Search Results
Search Results
Print Results
Don't Print Results
Print Request
Printed Form
Terminate Search
Terminate Search
New Search
New Search

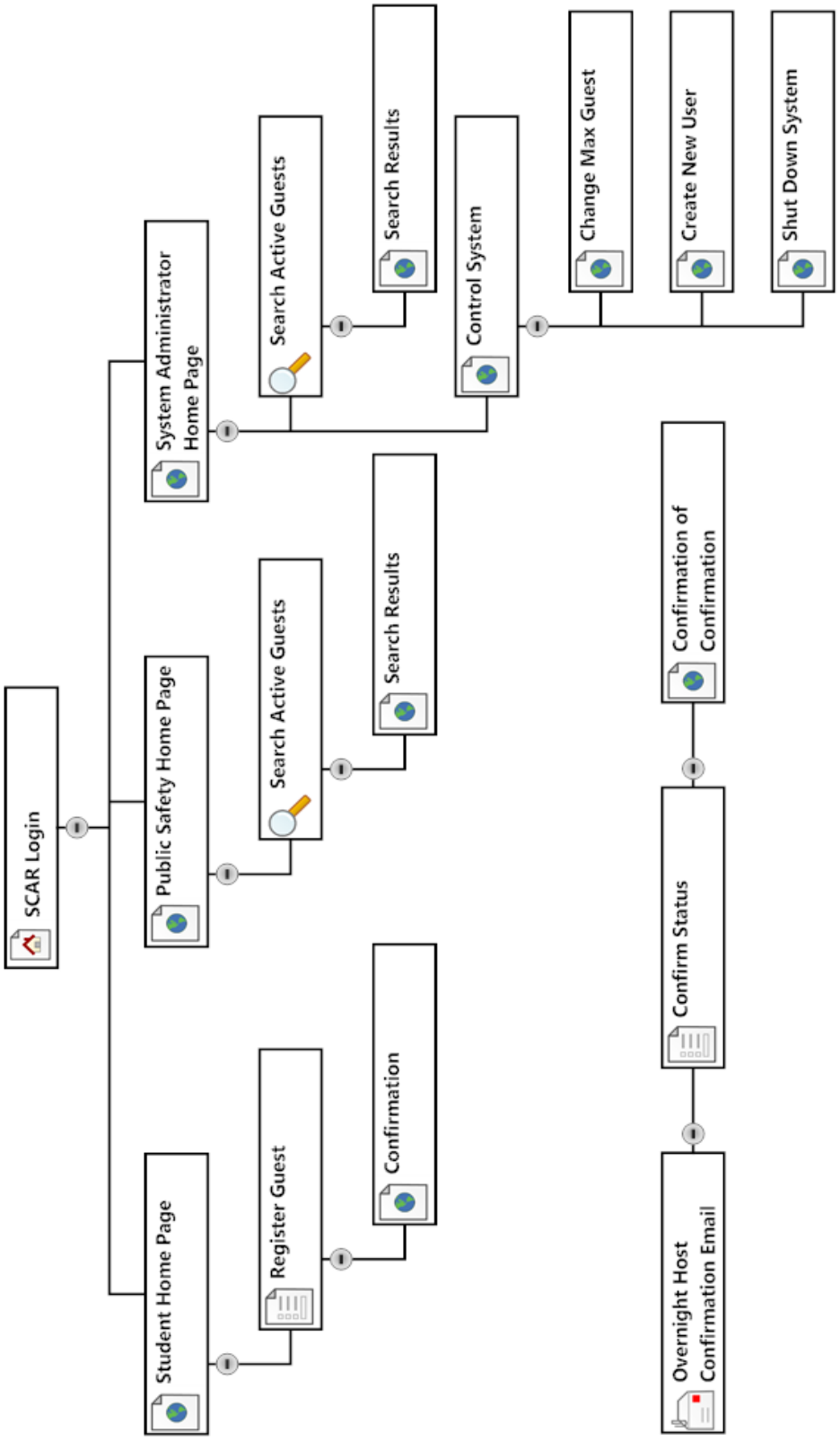
ADMINISTRATOR AUTHENTICATE



CONTROL SYSTEM



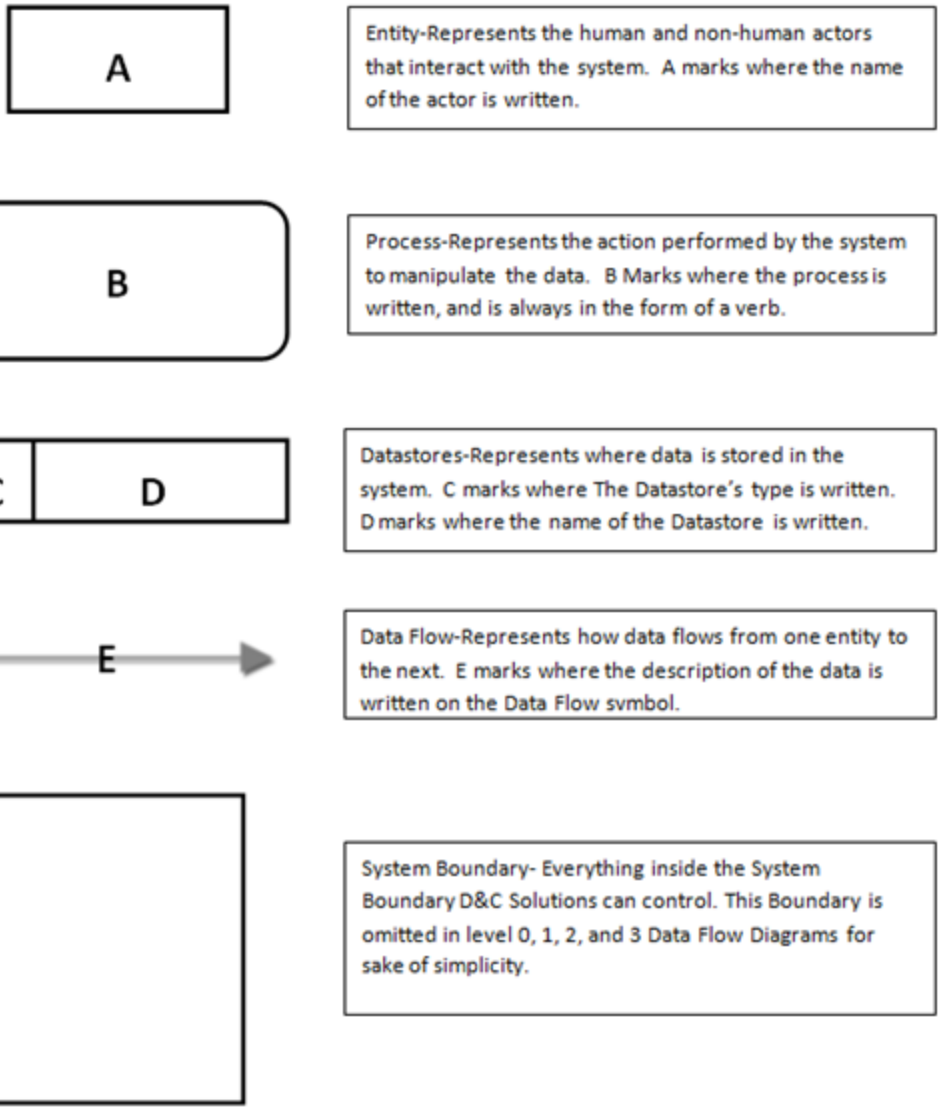
1.4 SCAR Website Map



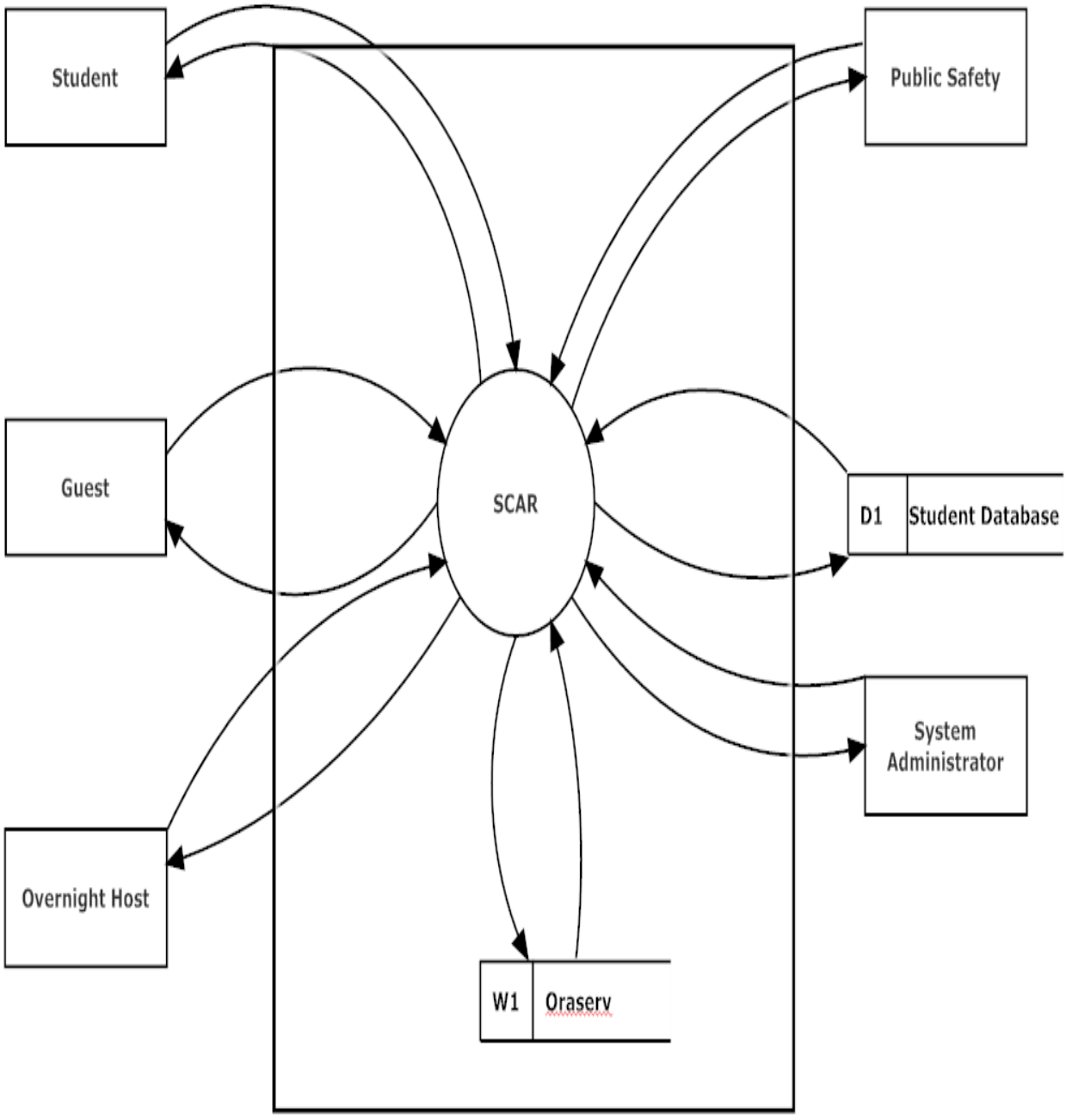
1.5 Data Flow Diagrams

1.5.1 – Data Flow Diagram Legend

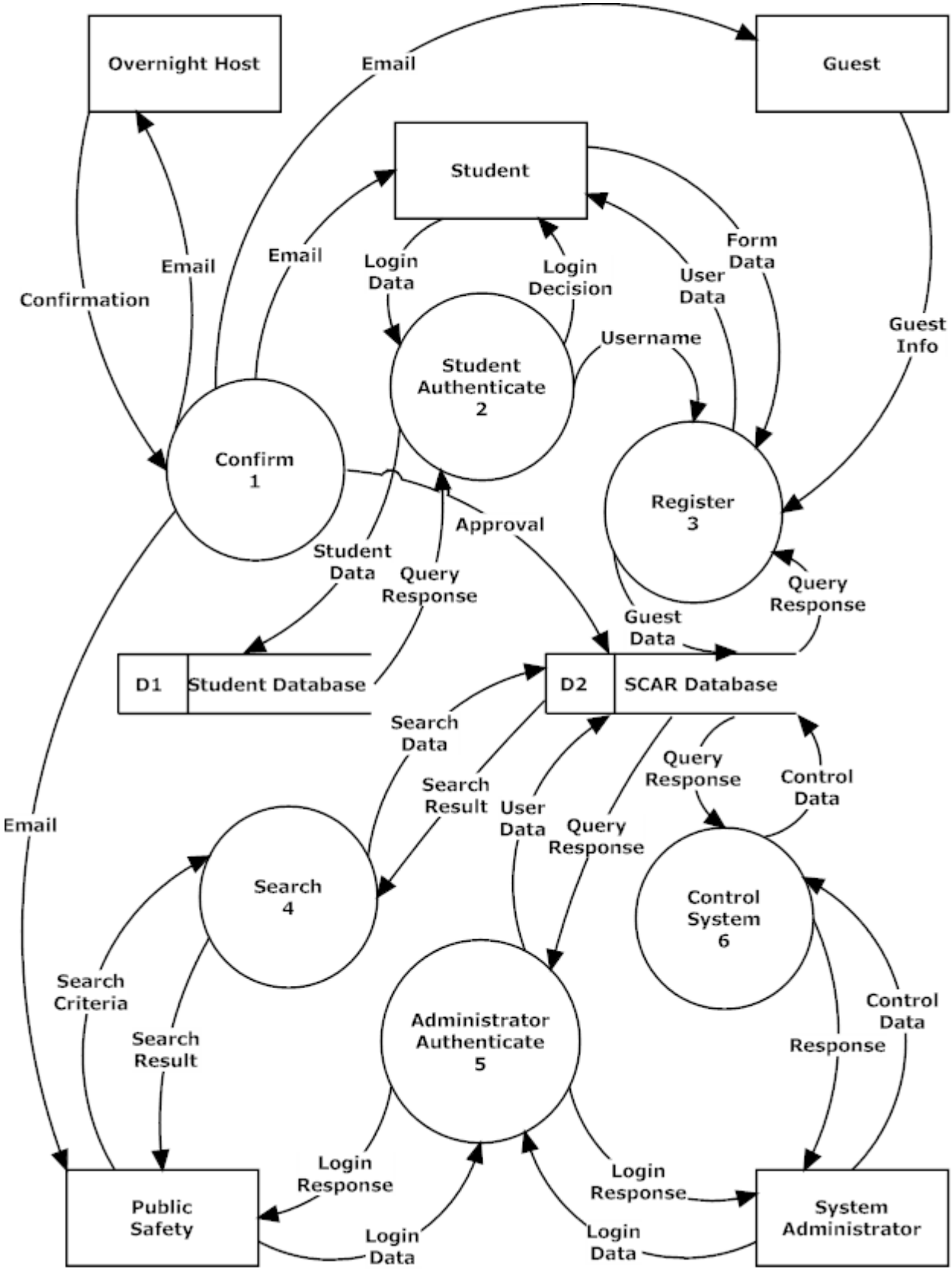
Data Flow Diagrams use symbols as a means to represent the different network levels of a system graphically. The symbols included in D&C Solution's Data Flow Diagrams are Entities, Processes, Datastores, and Data Flows. The legend will explain the significance of each symbol.



1.5.2 – Context Diagram

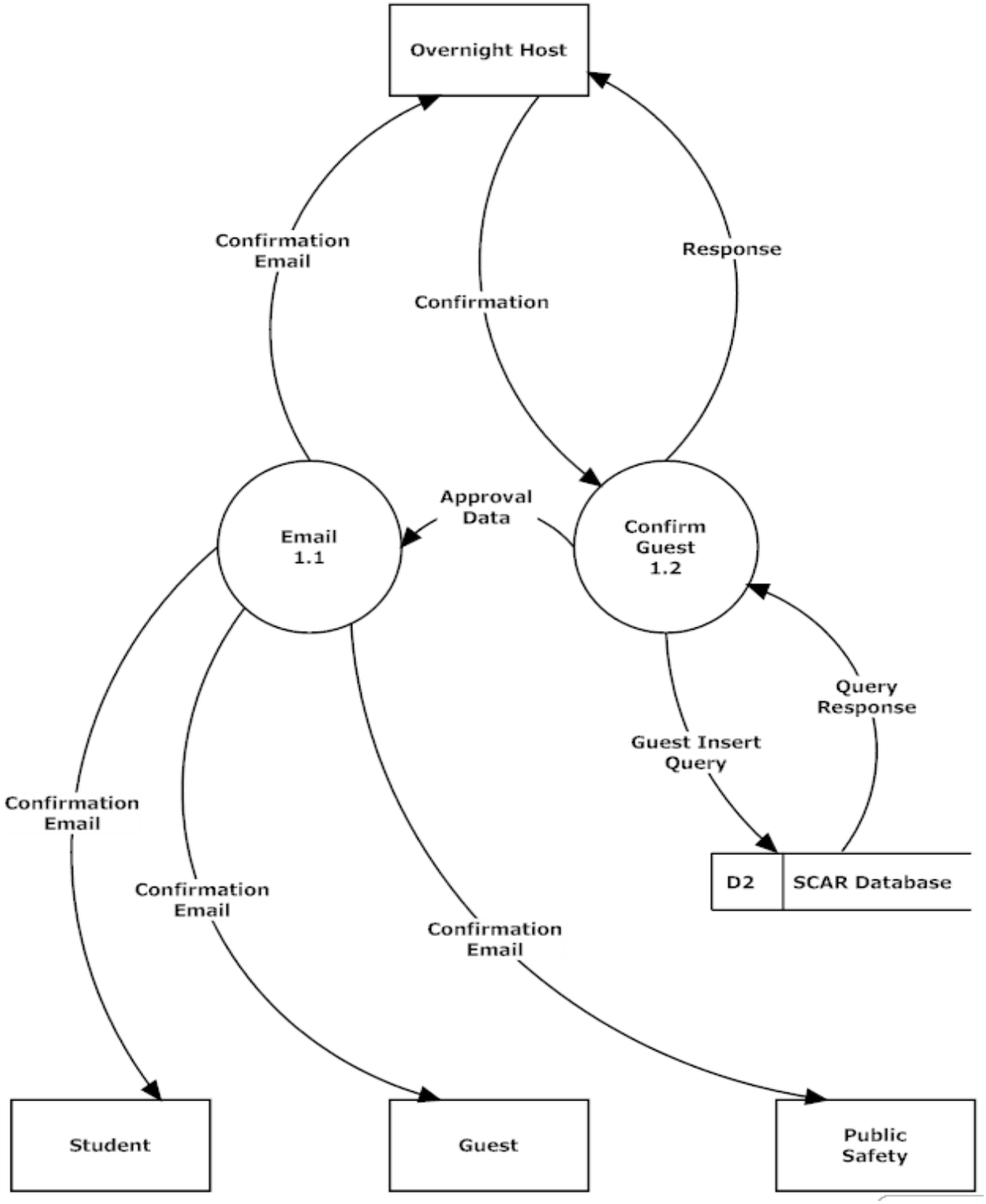


1.5.3 – Level 0 Diagram: SCAR

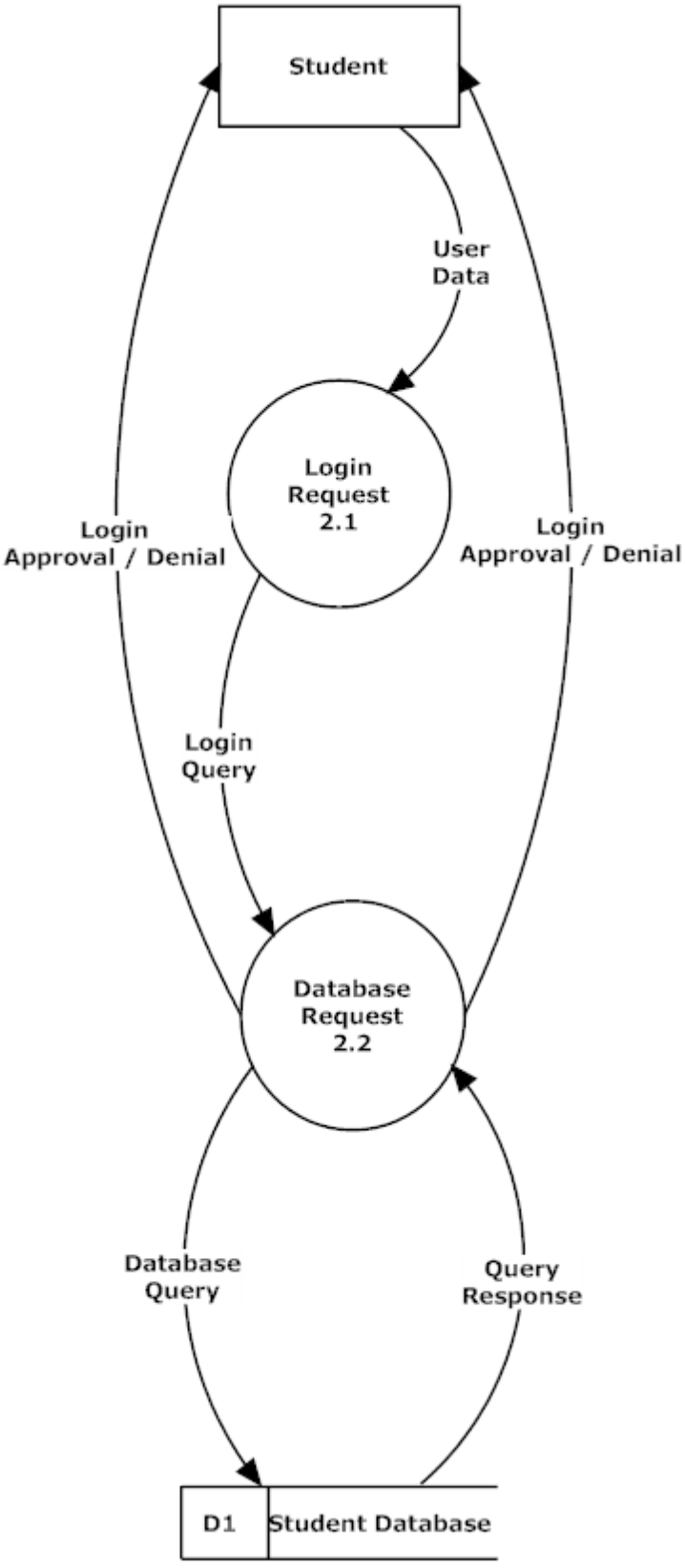


1.5.4 – Level 1s

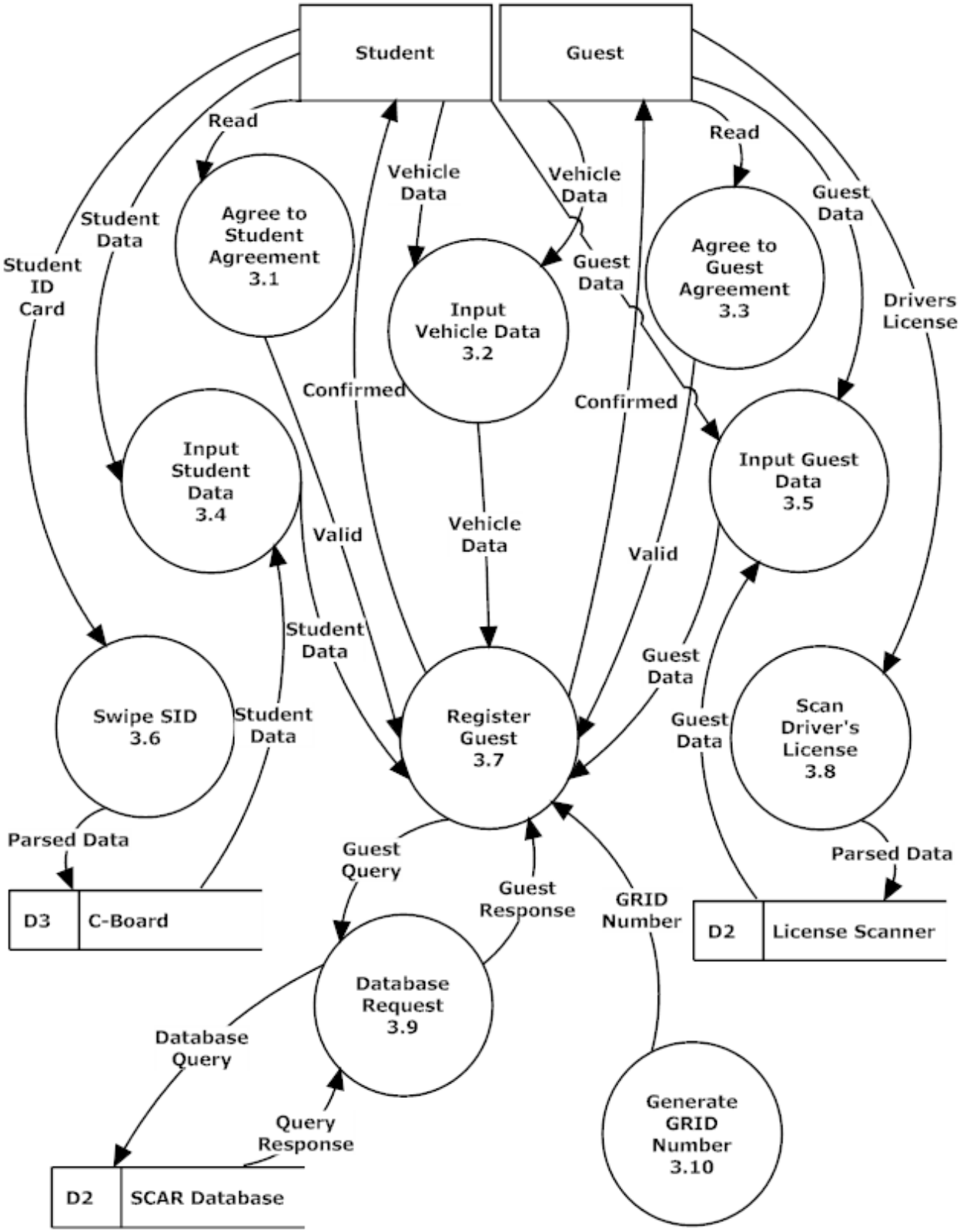
COMFIRM (1)



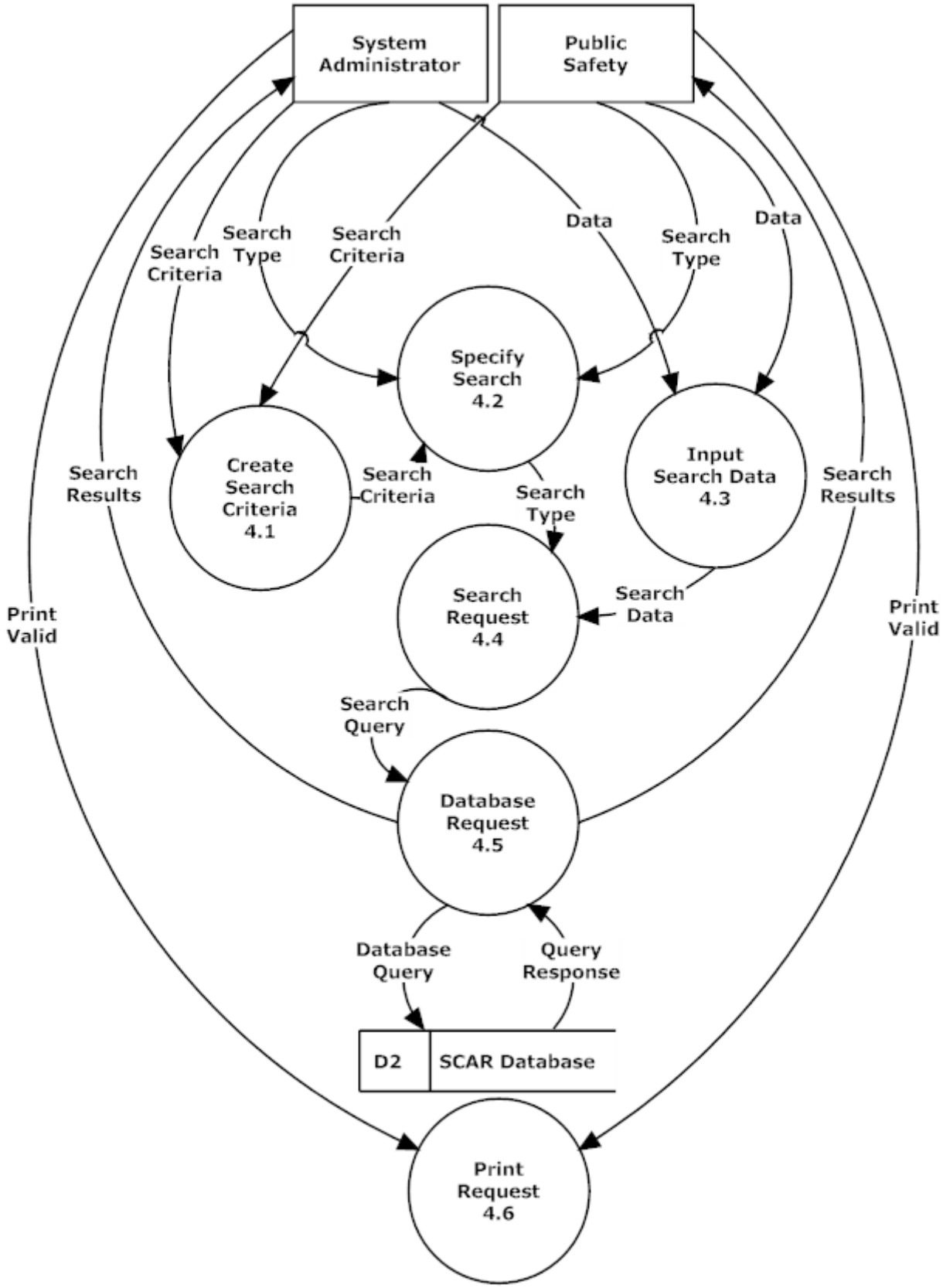
STUDENT AUTHENTICATE (2)



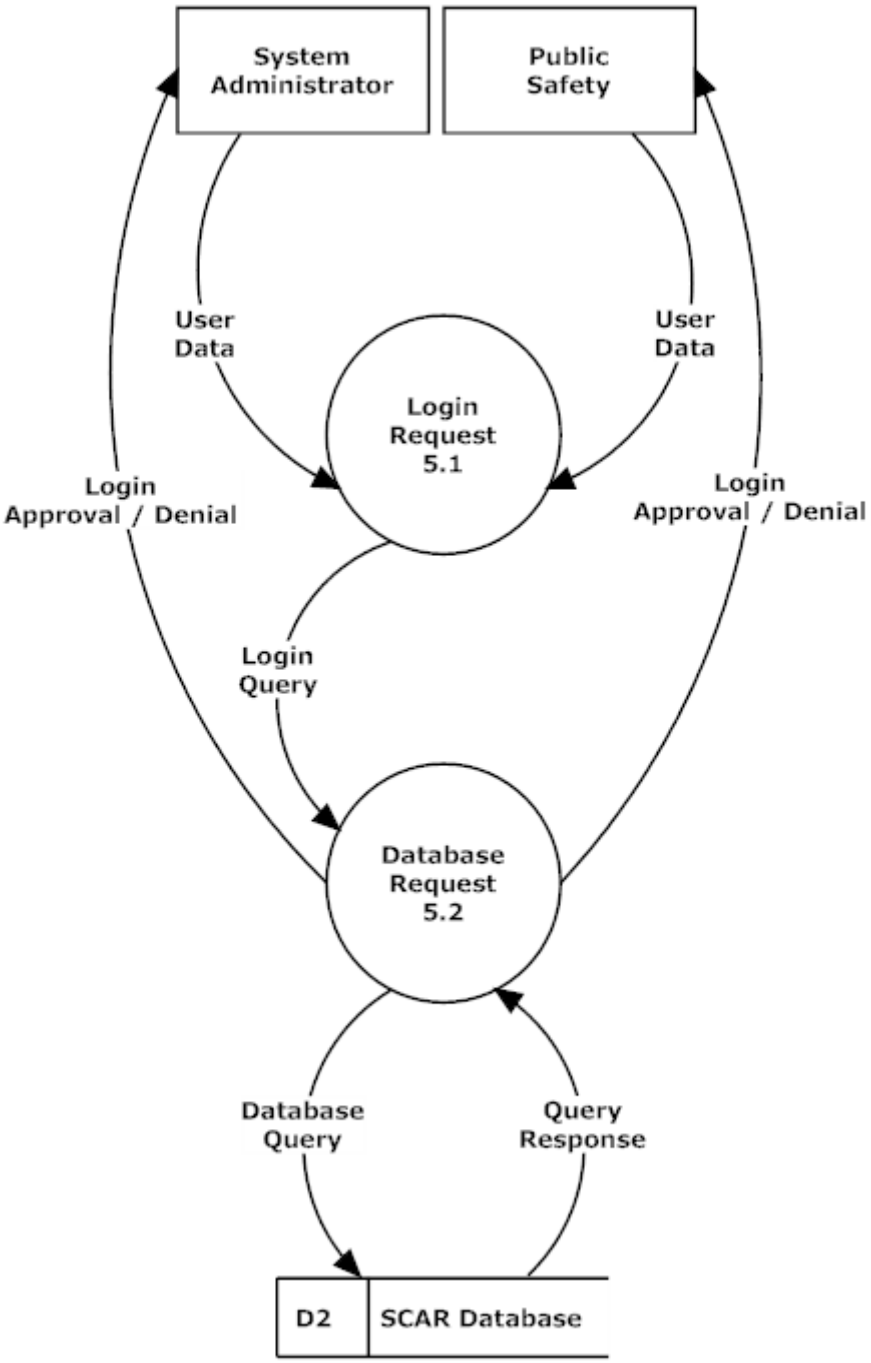
REGISTER (3)


Student
Guest
Read
Read
Student Data
Student ID Card
Agree to Student Agreement 3.1
Vehicle Data
Vehicle Data
Guest Data
Agree to Guest Agreement 3.3
Guest Data
Drivers License
Input Vehicle Data 3.2
Guest Data
Confirmed
Confirmed
Input Student Data 3.4
Input Guest Data 3.5
Valid
Vehicle Data
Valid
Student Data
Guest Data
Swipe SID 3.6
Student Data
Register Guest 3.7
Guest Data
Scan Driver's License 3.8
Parsed Data
Guest Query
Guest Response
GRID Number
Parsed Data
D3
C-Board
D2
License Scanner
Database Request 3.9
Database Query
Query Response
Generate GRID Number 3.10
D2
SCAR Database

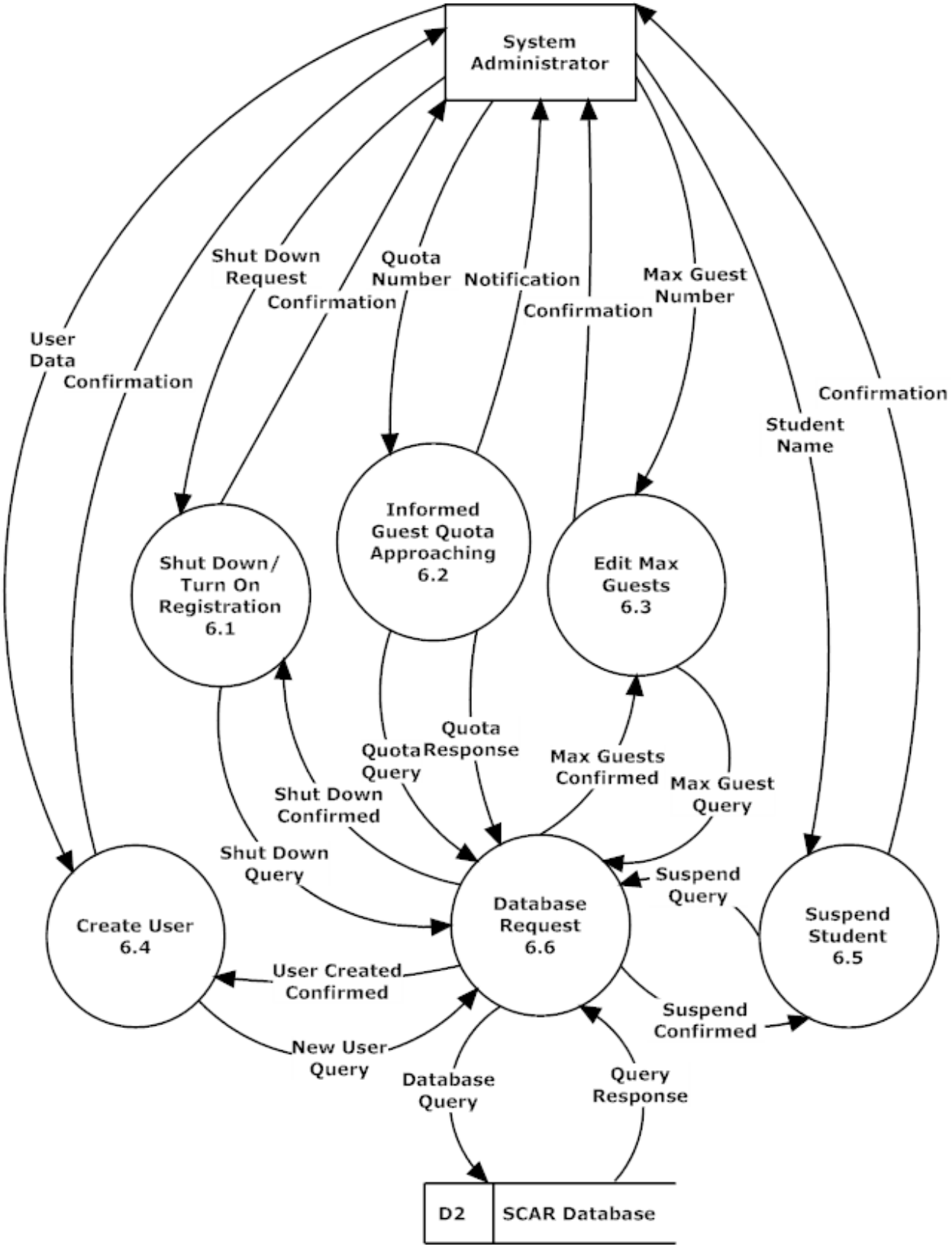
SEARCH (4)


System Administrator
Public Safety
Search Criteria
Search Type
Search Criteria
Data
Search Type
Data
Specify Search 4.2
Create Search Criteria 4.1
Search Criteria
Search Type
Input Search Data 4.3
Search Results
Search Results
Search Request 4.4
Search Data
Print Valid
Print Valid
Search Query
Database Request 4.5
Database Query
Query Response
D2
SCAR Database
Print Request 4.6

ADMINISTRATOR AUTHENTICATE (5)

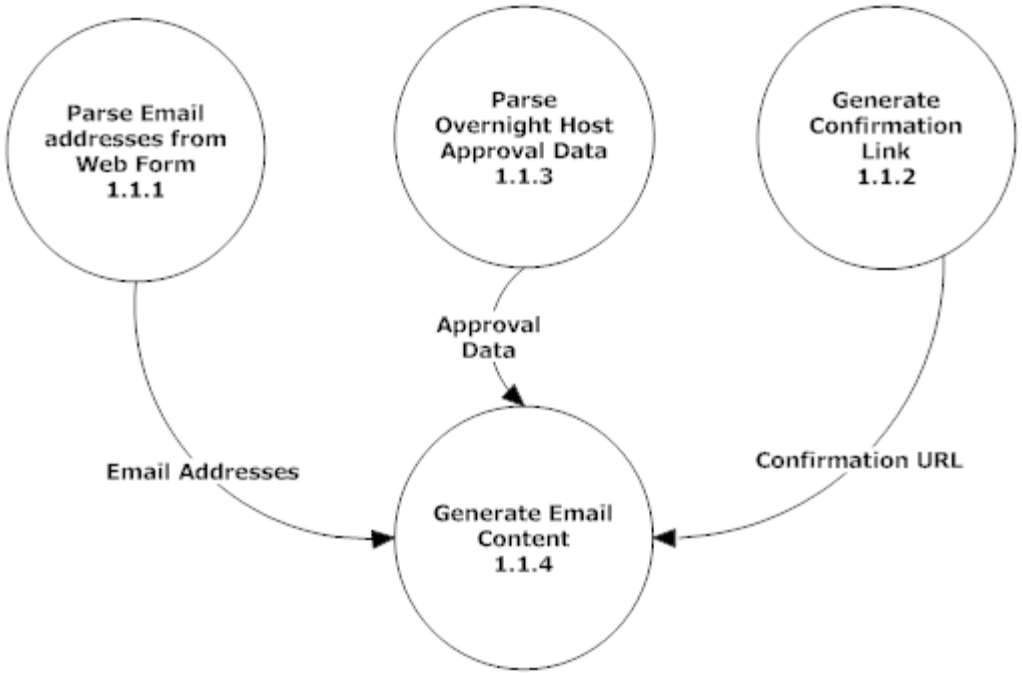


CONTROL SYSTEM (6)

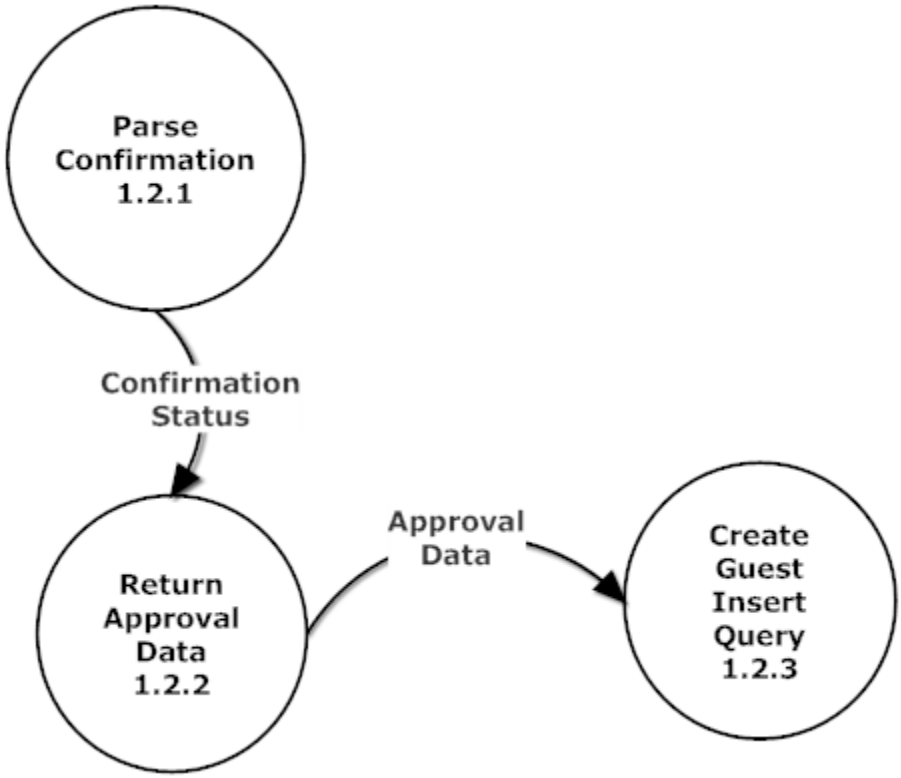


1.5.5 – Level 2s

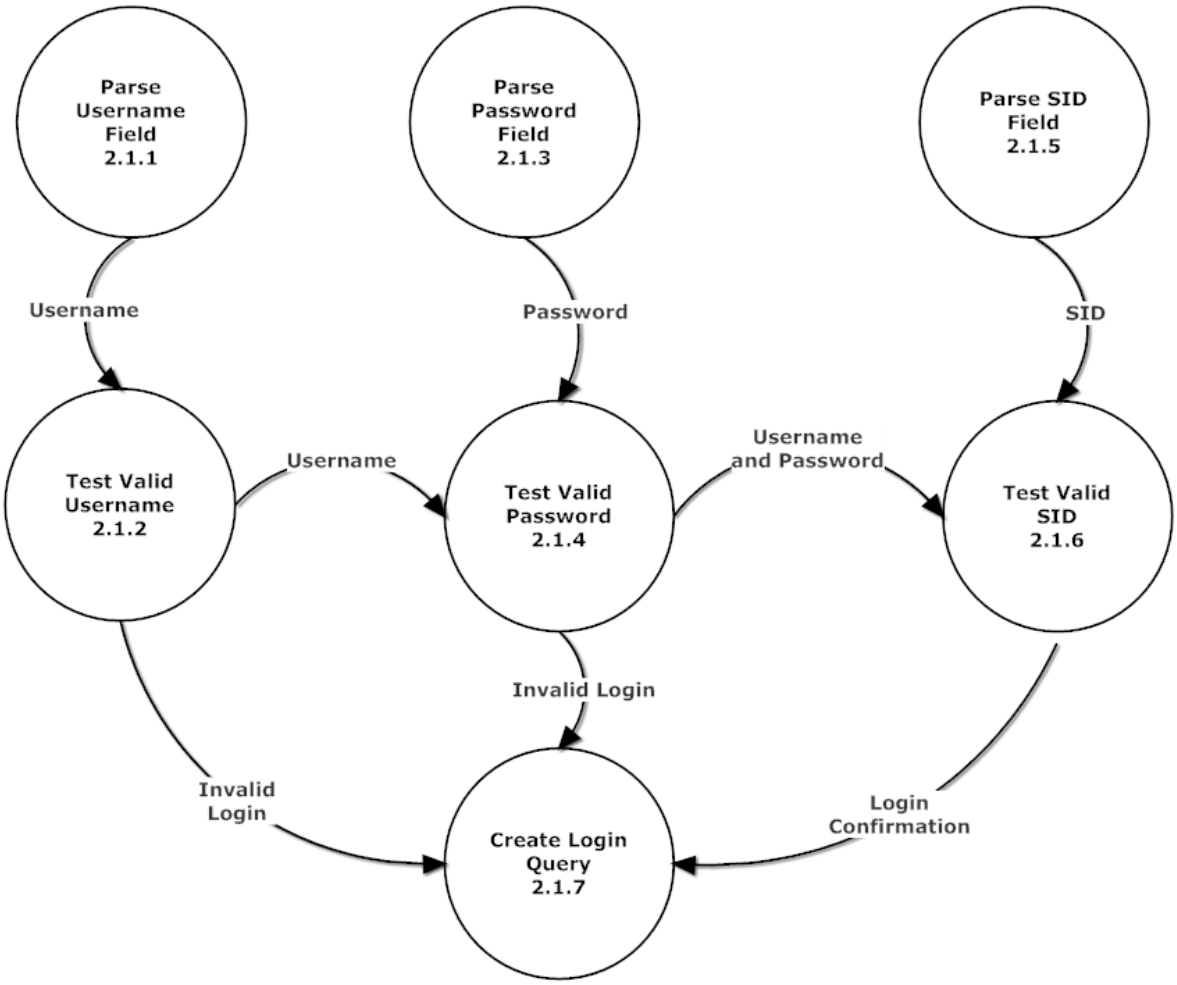
EMAIL (1.1)



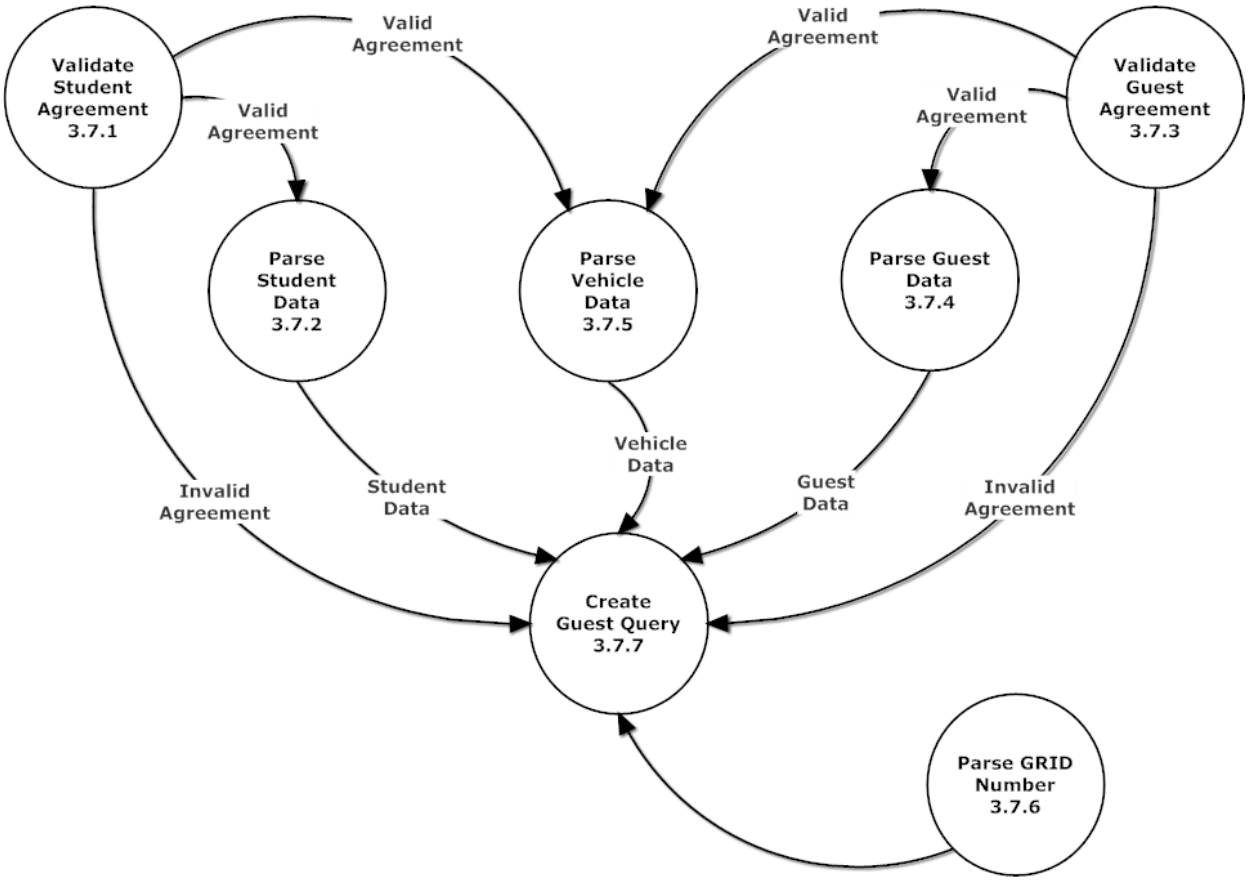
CONFIRM GUEST (1.2)



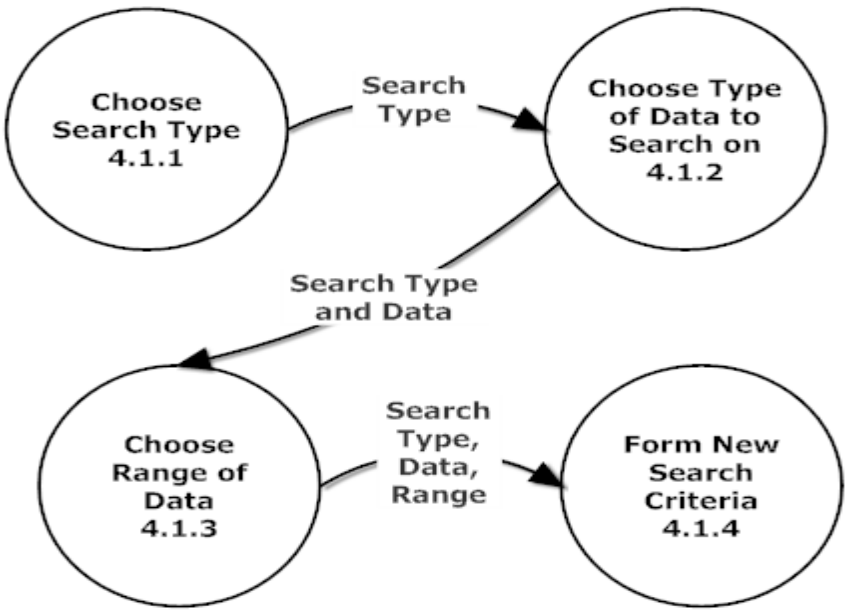
LOGIN REQUEST (2.2)



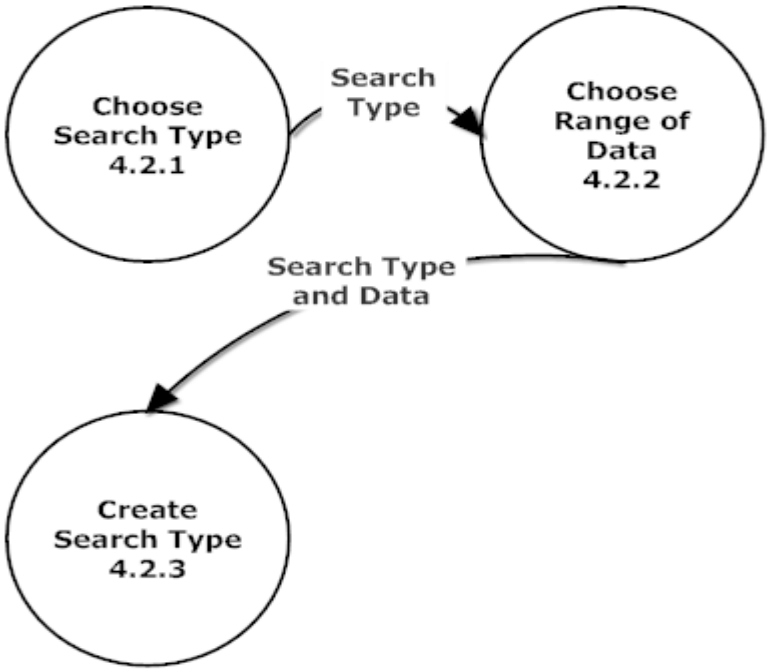
REGISTER GUEST (3.7)



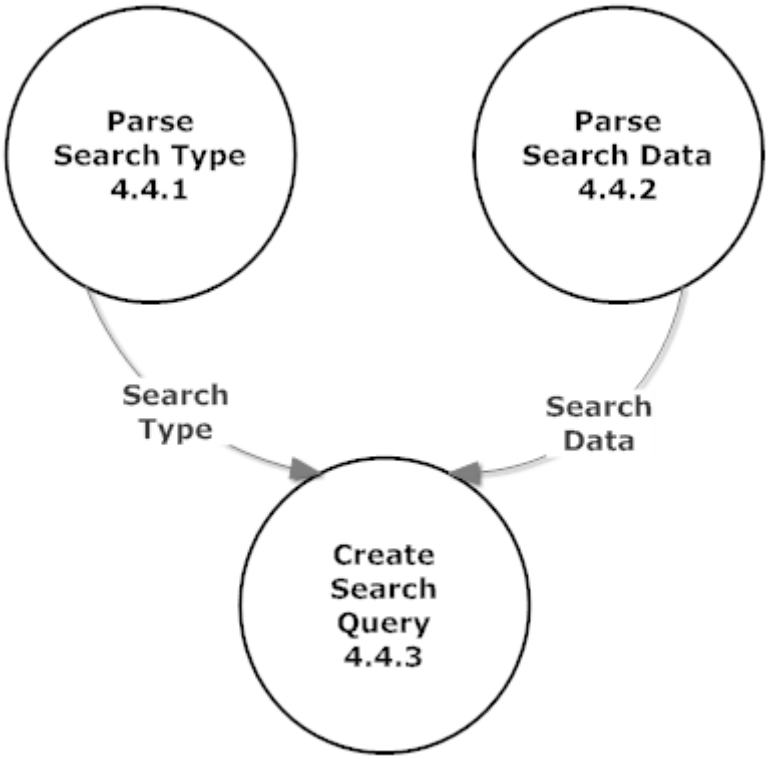
CREATE SEARCH CRITERIA (4.1)



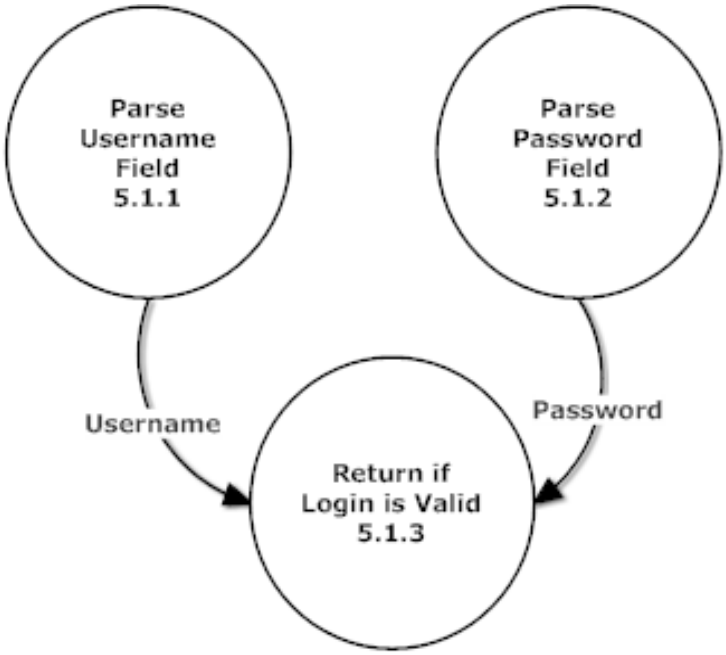
SPECIFY SEARCH (4.2)



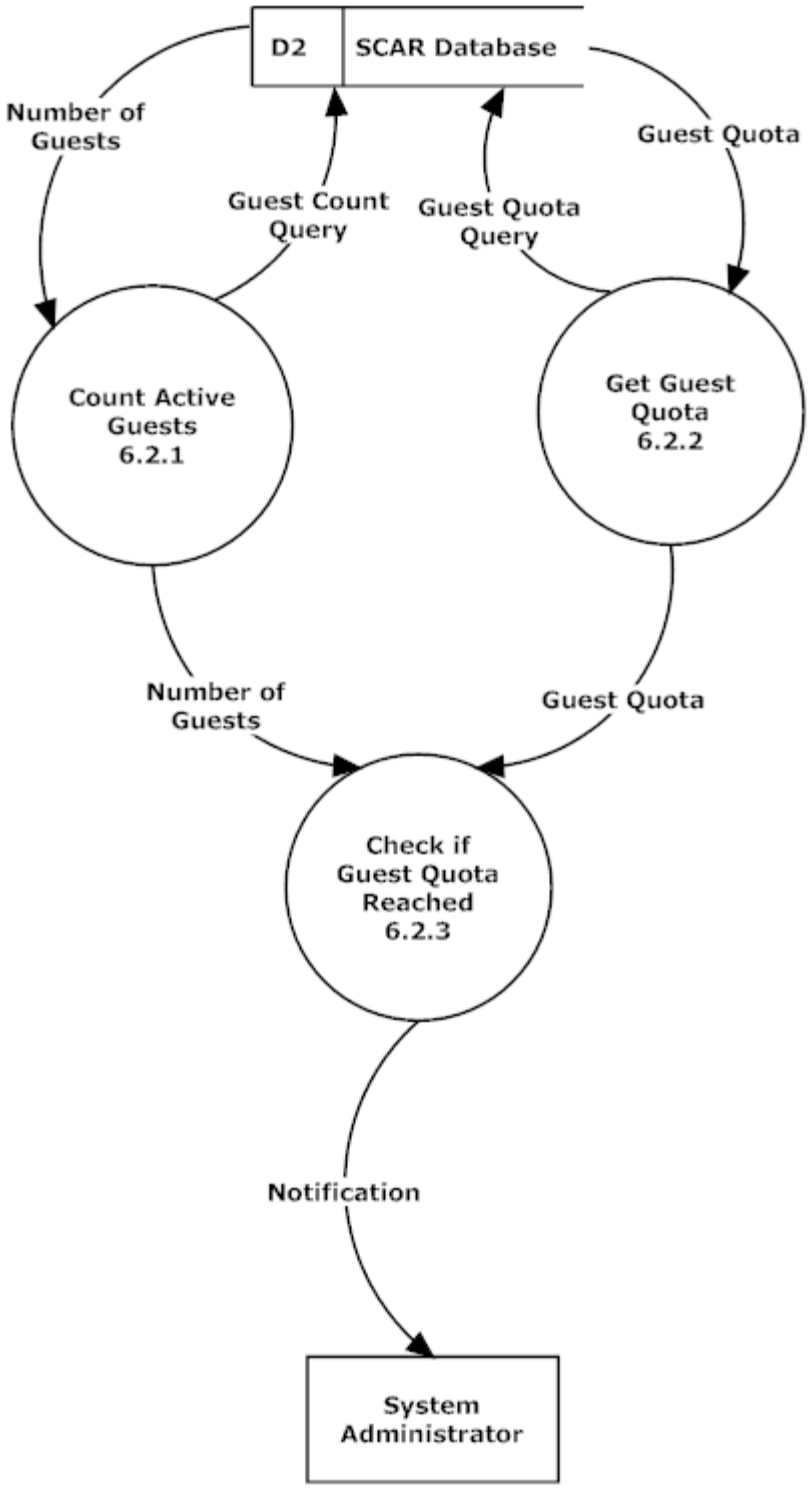
SEARCH REQUEST (4.4)



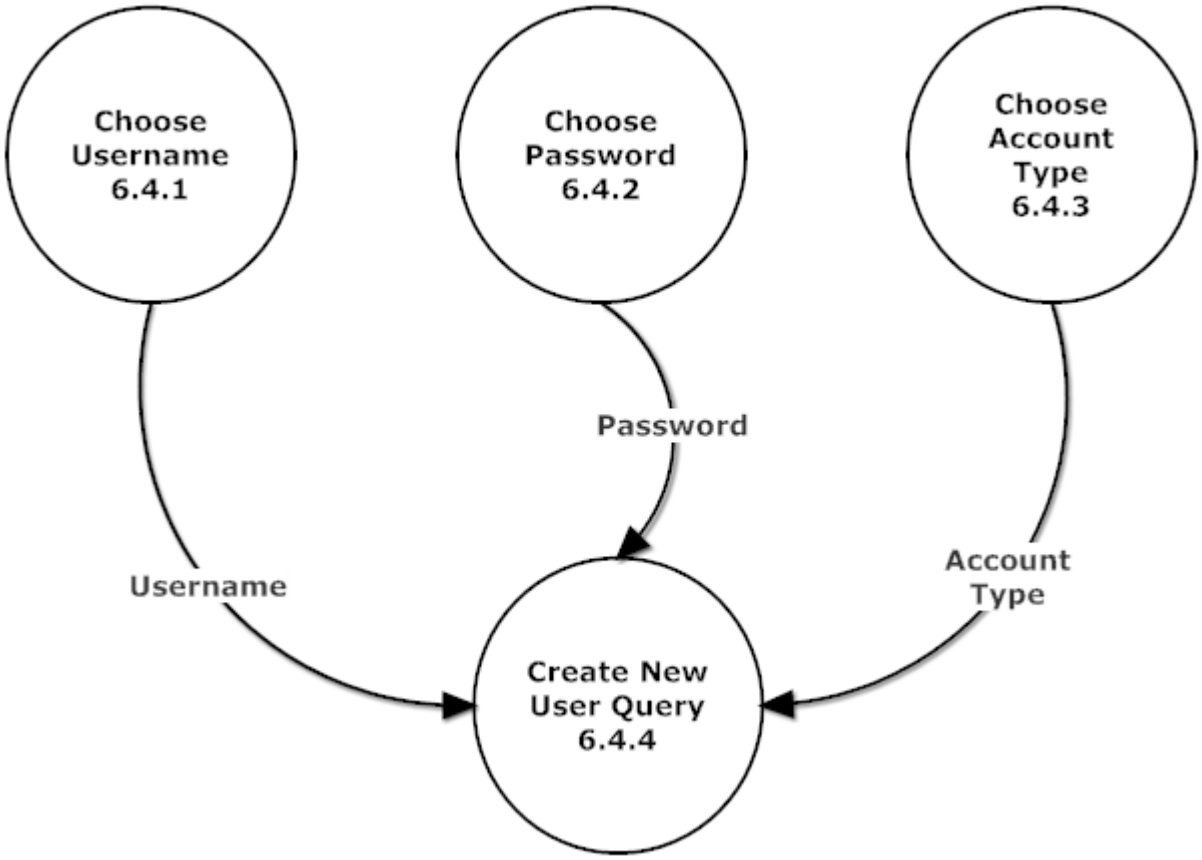
LOGIN REQUEST (5.1)



INFORMED GUEST QUOTA APPROACHING (6.2)

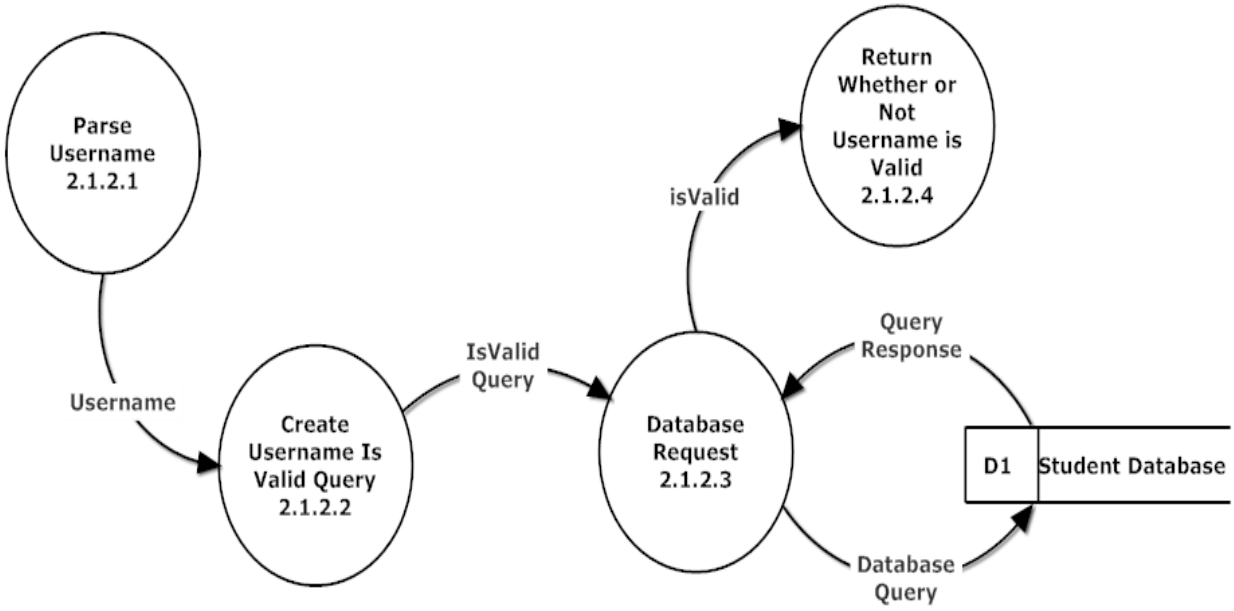


CREATE USER (6.4)

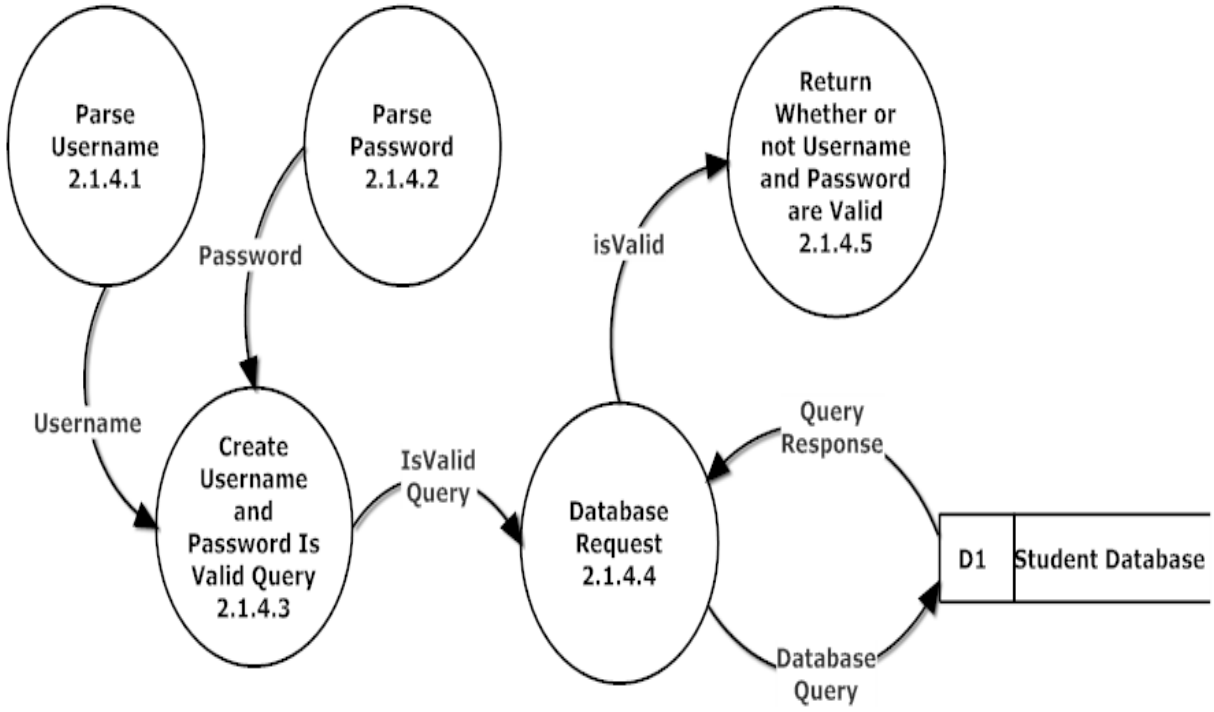


1.5.6 – Level 3s

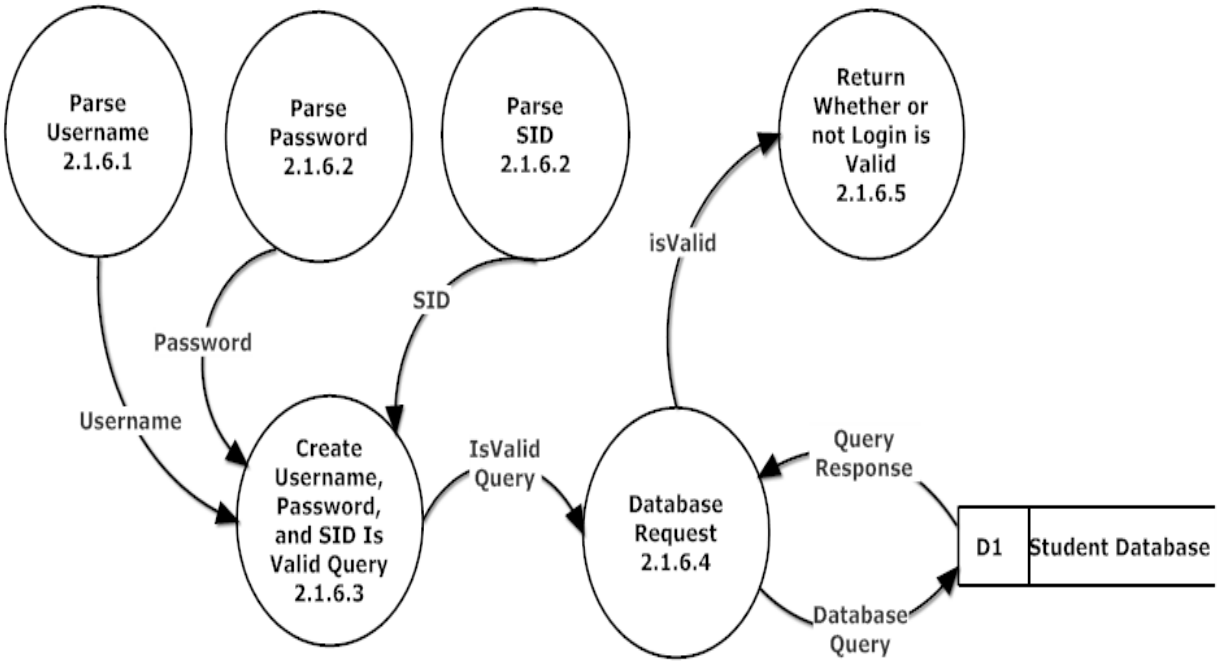
TEST VALID USERNAME (2.1.2)



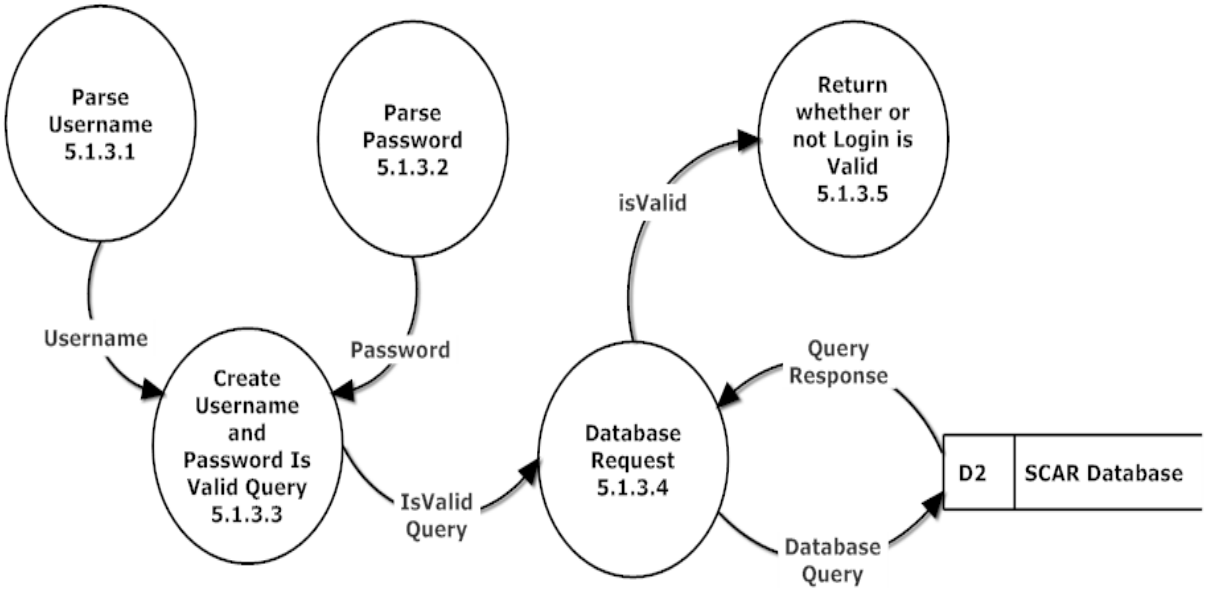
TEST VALID PASSWORD (2.1.4)



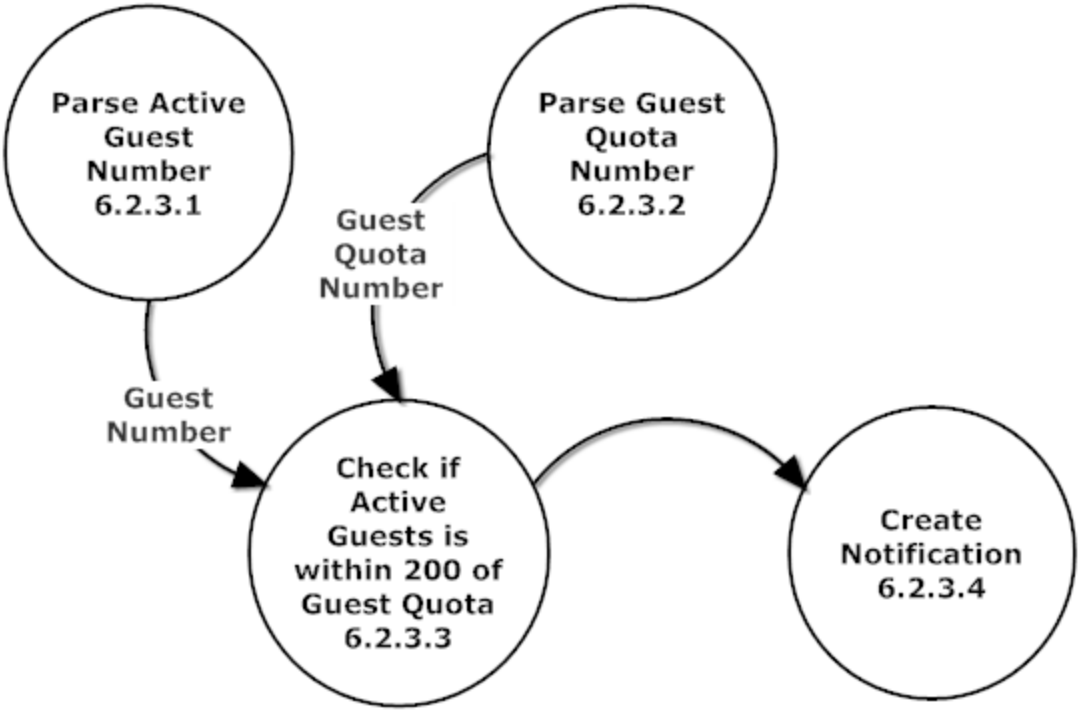
TEST VALID SID (2.1.6)



RETURN IF LOGIN IS VALID (5.1.3)



CHECK IF GUEST QUOTA REACHED (6.2.3)



1.6 Hierarchy Diagram

1.7 Functional Requirements Inventory

1.7.1 – General Requirements

- Useable on all major Internet Browsers
- Secure
- Data must be archived upon end of each year
- Online form has requirements so that it must be completed
- System has a maximum registration number
- Printouts must be easily readable
- Abides by Siena Life (Page 53-56 of the 2012-2013 issue)

1.7.2 – System Administrator

- Login required
- Has the ability to search:
  - 901s
  - GRID Numbers
  - Student Name
  - Guest Name
  - Date
  - Other, more advanced, Boolean searches
- Ability to update information in the database
- Receives a registration confirmation email
- Notification that registered guest number is reaching its quota
- Ability to shut off and turn on guest registration at any point
- Ability to adjust maximum registered guests number
- Ability to adjust percentage when notification for quota is sent
- Ability to create additional user accounts
- Ability to suspend students from registering guests
- Ability to make notes on a student

1.7.3 – Public Safety

- Login required
- Has the ability to search:
  - 901s
  - GRID Numbers
  - Student Name
  - Guest Name
  - Date
  - Other, more advanced, Boolean searches
- Receives a registration confirmation email
- Ability to make notes on a student

1.7.4 – Student

- Ability to register a guest
- Login required
- 901 and/or username and password can populate the online form
- Swipe of Student ID card on C-Board will populate online form
- First time registered guests are added to the SCAR database, unique for every student
- Ability to access previously registered guests to populate online form
- Receives a registration confirmation email

1.7.5 – Guest

- Guest Form Printout must look the same when printed from all computers
- Swipe of Driver's License (on License Scanner) will populate online form, and be stored in the SCAR database
- Receives a registration confirmation email
- Will receive a unique GRID number
- Vehicle registration
  - Information will be stored in the SCAR database

1.7.6 – Overnight Host

- Receives a registration confirmation email
  - Confirmation email includes a link which upon being clicked will confirm the overnight hosts position as overnight host

1.8 Non-Functional Requirements Inventory

- Efficient
- Student-Friendly
- Intuitive to use for Public Safety
- Easily Maintained
- Aesthetically Pleasing

1.9 Logical Data Dictionary

Data Name	Applicable to	Data Type	Data Size	Description	Acceptable Input	Good Examples of Input	Bad Examples of Input	Notes
userName	Authenticate	Varchar	5-15 Chars	Username	A-Z, a-z, 0-9	jh22smit, andraros, 091234	jr$%, 345-uty, 43!!0	The database is queried to find each user
userPass	Authenticate	Varchar	8-15 Chars	Password	ASCII 48-90	Pjs901578954, vch, 87239	js 75, $03@!)	
passwordReset	Configuration	Varchar	8-15 Chars	Password	ASCII 48-90	Pjs901578954, vch, 87239	js 75, $03@!)	Administrative User can access this
loginMess	Authenticate	Varchar	Up to 100 Chars	Message concerning authentication	0-9, ;	Incorrect username or password!		Triggered by failed authentication
searchCriteria	Search	Varchar	1-255 Chars	SQL query	ASCII 32-126	Select * from Students		This is the field that will hold the Public Safety Search criteria
systemON	Control System	Varchar	2-3 Chars	Adminstrator can Control if Registration is on or off	On, Off	On, Off	Null	
numGuests	Control System	Varchar	1 -4 Chars	Number of guests registered	0-9	2300, 1800	45000, -72	
notes	Control System	text	0-2,147,483,647 Chars	Used to make notes on a student	ASCII 32-126	Student was suspended for probation.		Public Safety and administrator can make notes on students mostly for suspension.
percentGuests	Control System	Varchar	1 -4 Chars	Percent of numGuests currently reigsterd	0-9, %	50%, 75%	130%, -30%	This field will be used to notify Adminstartor the percentage of max number of guests registered.

LOGICAL DATA DICTIONARY CONTINUED

Data Name	Applicable to	Data Type	Data Size	Description	Acceptable Input	Good Examples of Input	Bad Examples of Input	Notes
accessGrant	Control System/Search	Varchar	Enumerated Type	Adminstrator can Control access	Administrator, Public Saftey, Student			This field will control access to database and web form
guestFName	Register/Search	Varchar	1-30 Chars	Guest's First Name	ASCII 48-90	John, Joe, Jim	Bob33hotshot, MδT§	
guestLName	Register/Search	Varchar	1-30 Chars	Guest's Last Name	All Unicode Characters	Smith, Doe	╚H→[, 009	
guestStreet	Register/Search	Varchar	1-50 Chars	Guest's Street Address	A-z, a-z, SPACE, 0-9, -, '	123 Sesame Street, 666 Hell Highway	h4ll!()	
guestCity	Register/Search	Varchar	1-20 Chars	Guest's City	A-Z, a-z, SPACE, -, '	San Antonio, Bohemia	h4ll!()	
guestState	Register/Search	Varchar	1-15 Chars	Guest's State	A-Z, a-z, SPACE	New York	h4ll!()	
guestZip	Register/Search	Varchar	5 chars	Guest's Zip Code	0-9	12250	14!h	
guestEmail	Register/Search	Varchar	4-50 Chars	Guest's Email Address	ASCII 33-126	jh22smit@siena.edu	12	
guestPhone	Register/Search	Varchar	12 Chars	Guest's Phone Number	0-9,-	555-555-5555	1234fg657	
guestGender	Register/Search	Varchar	Enumerated Type	Guest's Gender	MALE, FEMALE	MALE	DWARF	
guestBDay	Register/Search	Varchar	10 Chars	Guest's Birthday	0-9, /	12/21/2012	14-Jan-12	
guestEContact	Register/Search	Varchar	1-50 Chars	Guest's Emergency Contact Name	All Unicode Characters	Francis Smith		
guestRelation	Register/Search	Varchar	1-15 Chars	Emergency Contact's Relationship to Guest	A-Z, a-z	Mother	Sister's Dog	
GRIDnumber	Register/Search	Varchar	16 Chars	Unique Registration Number	0-9	1234 5678 9802 7823	B87 891C 89	Generated by Algorithm at time of registration
emStreet	Register/Search	Varchar	1-50 Chars	Emergency Contact's Street Address	A-z, a-z, SPACE, 0-9, -, '	123 Sesame Street, 666 Hell Highway	h4ll!(), North Pole rd., 123 street	

LOGICAL DATA DICTIONARY CONTINUED

Data Name	Applicable to	Data Type	Data Size	Description	Acceptable Input	Good Examples of Input	Bad Examples of Input	Notes
emCity	Register/Search	Varchar	1-20 Chars	Emergency Contact's City	A-Z, a-z, SPACE, -, '	San Antonio	h4ll!()	
emState	Register/Search	Varchar	1-15 Chars	Emergency Contact's State	A-Z, a-z, SPACE	New York	h4ll!()	
emZip	Register/Search	Varchar	5 chars	Emergency Contact's Zip Code	0-9	12250	14!h	
emPhone	Register/Search	Varchar	12 Chars	Emergency Contact's Phone Number	0-9,-	555-555-5555	1234fg657	
vehMake	Register/Search	Varchar	1-25 Chars	Guest's Vehicle Make	A-Z, a-z, SPACE, -, '	Honda, Toyota	vt68	
vehModel	Register/Search	Varchar	1-25 Chars	Guest's Vehicle Model	ASCII 32-126	Accord, Camry		
vehColor	Register/Search	Varchar	1-15 Chars	Guest's Vehicle Color	A-Z, a-z, SPACE	Light Blue, Red	Red 6, **^g!	
vehLicense	Register/Search	Varchar	1-12 Chars	Guest's Vehicle Licence Plate	A-Z, a-z, SPACE, 0-9	HKJ1347	4@t3rz!	
vehState	Register/Search	Varchar	8-15 Chars	Guest's Vehicle State	A-Z, a-z, SPACE	New York	h4ll!()	
arriveDate	Register/Search	Varchar	10 Chars	Guest's Arrival Date	0-9, /	12/21/2012	14-Jan-12	
arriveTime	Register/Search	Varchar	4 Chars	Guest's Arrival Time	0-9	1300	2:00PM	24 Hour Clock
departDate	Register/Search	Varchar	10 Chars	Guest's Departure Date	0-9, /	12/21/2012	14-Jan-12	
departTime	Register/Search	Varchar	4 Chars	Guest's Departure Time	0-9	1300	2:00PM	24 Hour Clock
ifOverNight	Register/Search	Varchar	Enumerated Type	If the Guest is staying over night	Yes, No		Null	
hostFName	Register/Search	Varchar	1-30 Chars	Overnight Host's First Name	All Unicode Characters	John		
hostLName	Register/Search	Varchar	1-30 Chars	Overnight Host's Last Name	All Unicode Characters	Smith		
hostPhone	Register/Search	Varchar	12 Chars	Overnight Host's Phone Number	0-9,-	555-555-5555	1234fg657	
hostRoomNumber	Register/Search	Varchar	1 - 3 Chars	Overnight Host's Room or House number	0-9	103	B3245	

LOGICAL DATA DICTIONARY CONTINUED

Data Name	Applicable to	Data Type	Data Size	Description	Acceptable Input	Good Examples of Input	Bad Examples of Input	Notes
hostID	Register/Authenticate/Search	Varchar	9 Chars	Overnight Host's SID	0-9	901012345	876Z5	
hostBuilding	Register/Search	Varchar	Enumerated Type	Overnight Host's Dorm or TownHouse Name	Cushing, Hennepin, Hines, Padua, Plassman, MacClosky, New, Ryan		Null	
hostConfirm	Register/Search	Boolean	Enumerated Type	If Overnight Host has confirmed guest	True, False			Will be false until confirmed
hostAgreement	Regsiter	Boolean	Enumerated Type	This will be the agreement Overnight Host's must agree to before	True, False			Overnight Host's must agree or registration will not be completed
studentFName	Register/Search	Varchar	1-30 Chars	StudentFirst Name	All Unicode Characters	John		
studentLName	Register/Search	Varchar	1-30 Chars	Student Last Name	All Unicode Characters	Smith		
studentPhone	Register/Search	Varchar	12 Chars	Student Phone Number	0-9,-	555-555-5555	1234fg657	
studentRoomNumber	Register/Search	Varchar	1 - 3 Chars	Student Room or House number	0-9	103	B3245	
studentID	Register/Authenticate/Search	Varchar	9 Chars	Student SID	0-9	901012345	876Z5	
studentBuilding	Register/Search	Varchar	Enumerated Type	Student Commuter, Dorm or TownHouse Name	Cushing, Hennepin, Hines, Padua, Plassman, MacClosky, New, Ryan, Commuter		Null	
studentAgreement	Regsiter	Boolean	Enumerated Type	This will be the agreement students must agree to before registering their guest	True, False			Student must agree or registration will not be possible

LOGICAL DATA DICTIONARY CONTINUED

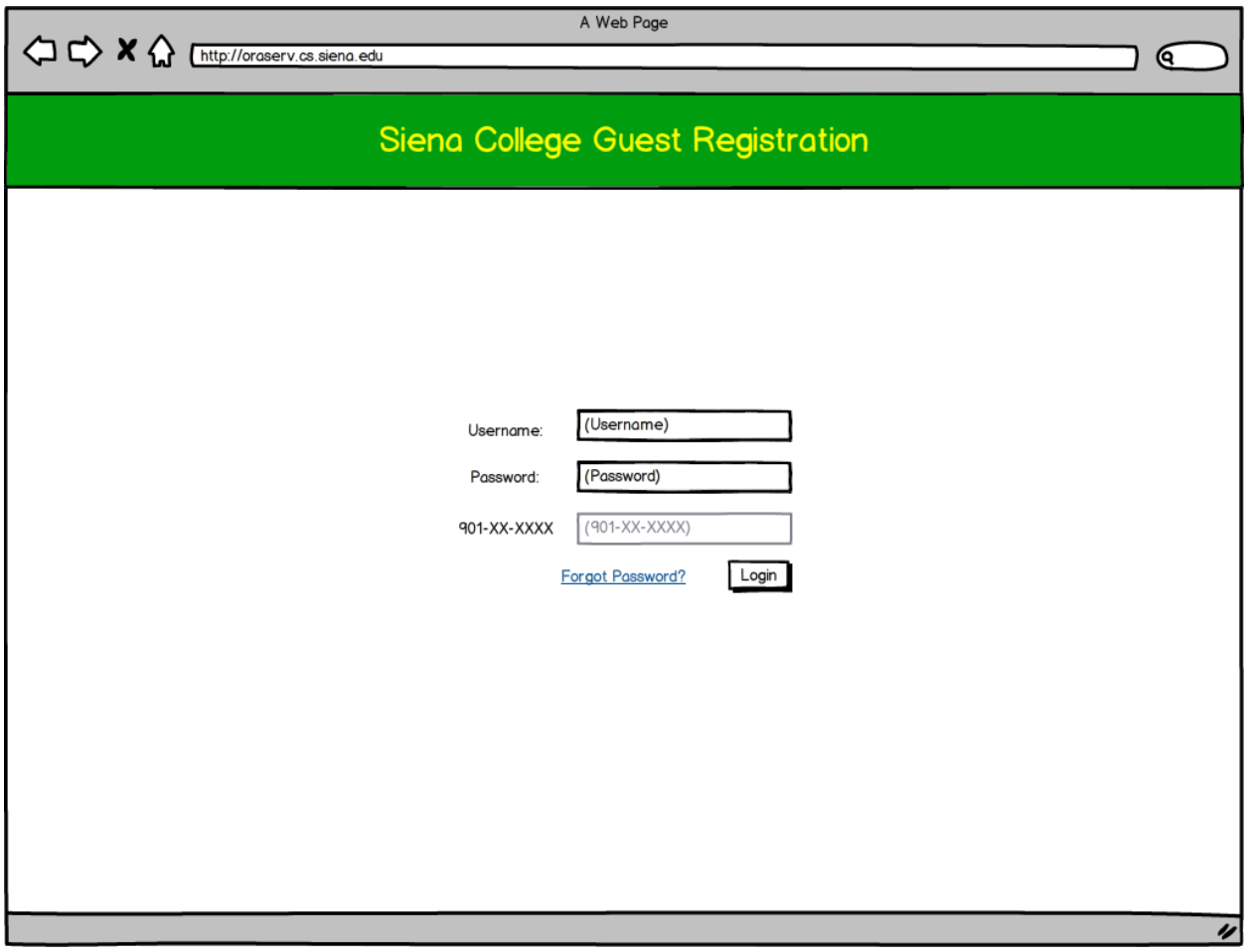
Data Name	Applicable to	Data Type	Data Size	Description	Acceptable Input	Good Examples of Input	Bad Examples of Input	Notes
commuterStreet	Register/Search	Varchar	1-50 Chars	Commuter's Street Address	A-z, a-z, SPACE, 0-9, -, '	123 Sesame Street, 666 Hell Highway	h4ll!(), North Pole rd., 123 street	
commuterCity	Register/Search	Varchar	1-20 Chars	Commuter's City	A-Z, a-z, SPACE, -, '	San Antonio	h4ll!()	
commuterState	Register/Search	Varchar	1-15 Chars	Commuter's State	A-Z, a-z, SPACE	New York	h4ll!()	
commuterZip	Register/Search	Varchar	5 chars	Commuter's Zip Code	0-9	12250	14!h	

1.10 License Scanner Research

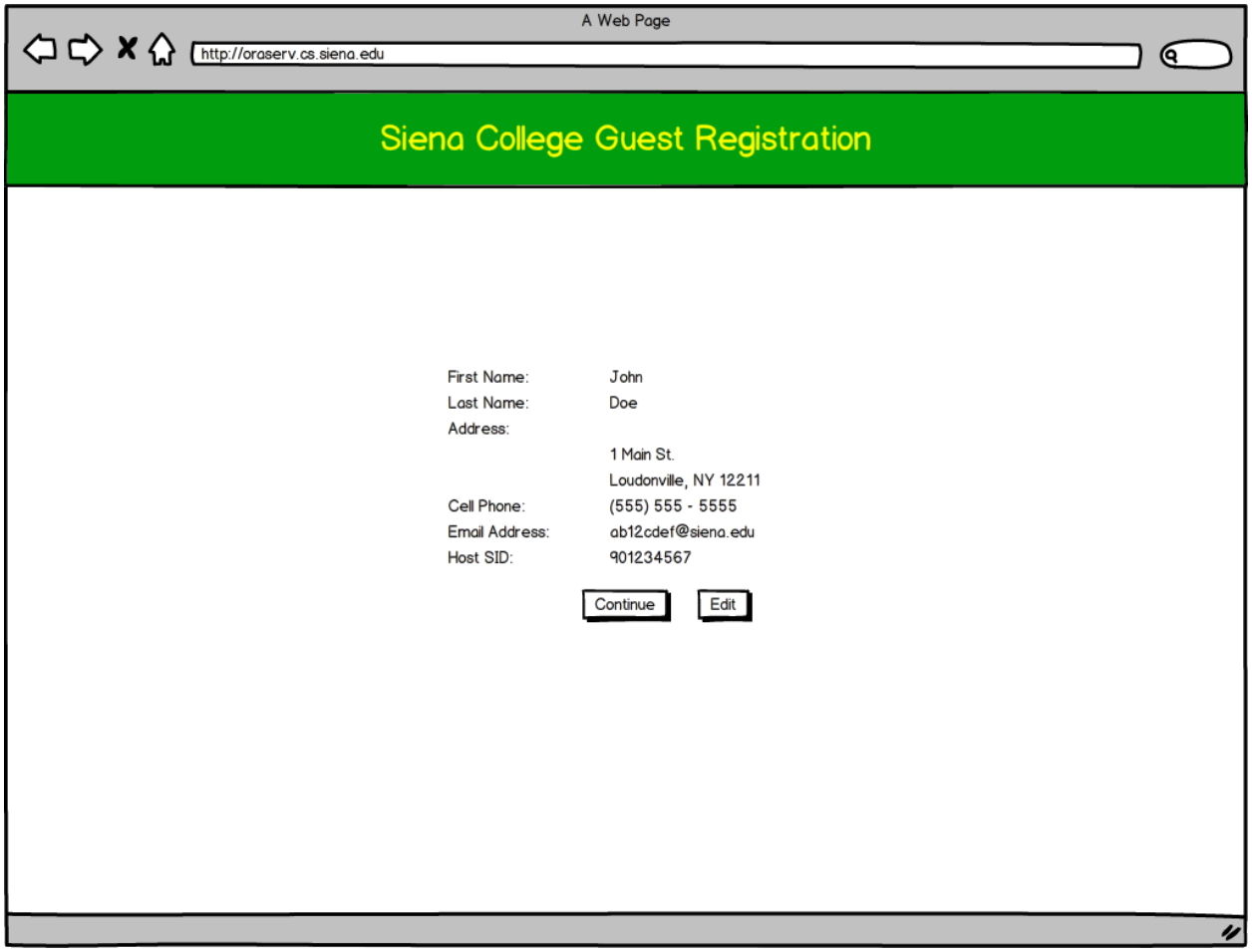
	NAME	PRICE	LICENSES SUPPORTED	EXPORT CAPABILITY	SCANNING	POWER CAPABILITIES	IMAGES	DEVELOPING	OTHER FEATURES	HYPERLINK
MOBILE	VeriAge and VeriScan for iPhone / iPod Touch w/ iMag Pro	$165.00	All 50 states	Can export to a comma separated file (.csv)	Scans barcode of drivers license	Uses the battery on the host device	Does not support images	Can develop a mobile app to support software, also can download mobile apps	Connects to most apple mobile devices through the headphone jack	http://www.barcodesinc.com/idtech/imag-pro.htm
LOW LEVEL	Motorola DS6708 Scanner	$315.10	All 50 states	Parsing of data is done by the scanner	Scans barcode on driver license	Must be plugged into USB Port to use	No image support	Developer must design program to pull data from scanner	Handheld	http://pcrush.com
MID LEVEL	Scan2Web OCR – ID Scanner	$649.00	All 50 states, and 80 countries around the world	Extracts the cards data and parses the fields into appropriate text fields	Automatically detects card and scans accordingly	Must be plugged into computer (USB port) during use	Ability to Save images	Extracts fields directly into web forms	Automatically corrects incorrect card insert, capable of scanning other documents	http://www.card-reader.com/
HIGH LEVEL	M-310 Handheld ID Card Reader	$1295.00	All 50 states, Canadian provinces, and Military ID's	Can scan to excel through USB or ActiveSync	1 Second per scan or swipe	Rechargeable battery, 4000+ license scans per battery life, completely portable	No image storing capabilities	Must extract info from excel	Touch Screen, Can track number of visits, can ban users	http://idscanner.com

1.11 Prototype Screens – External Design

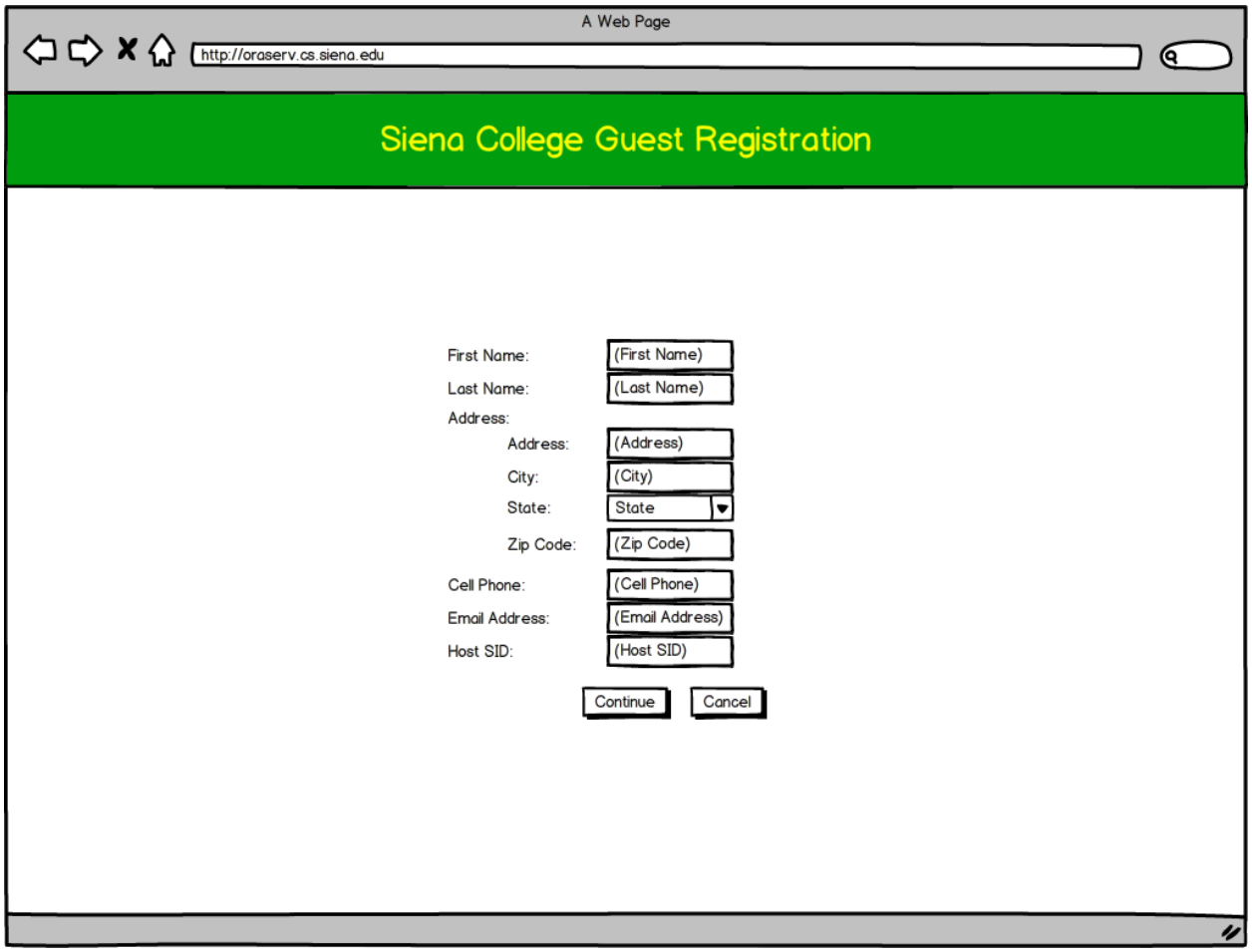
STUDENT LOGIN



(AFTER LOGIN) OFF CAMPUS STUDENT



OFF CAMPUS STUDENT EDIT INFORMATION



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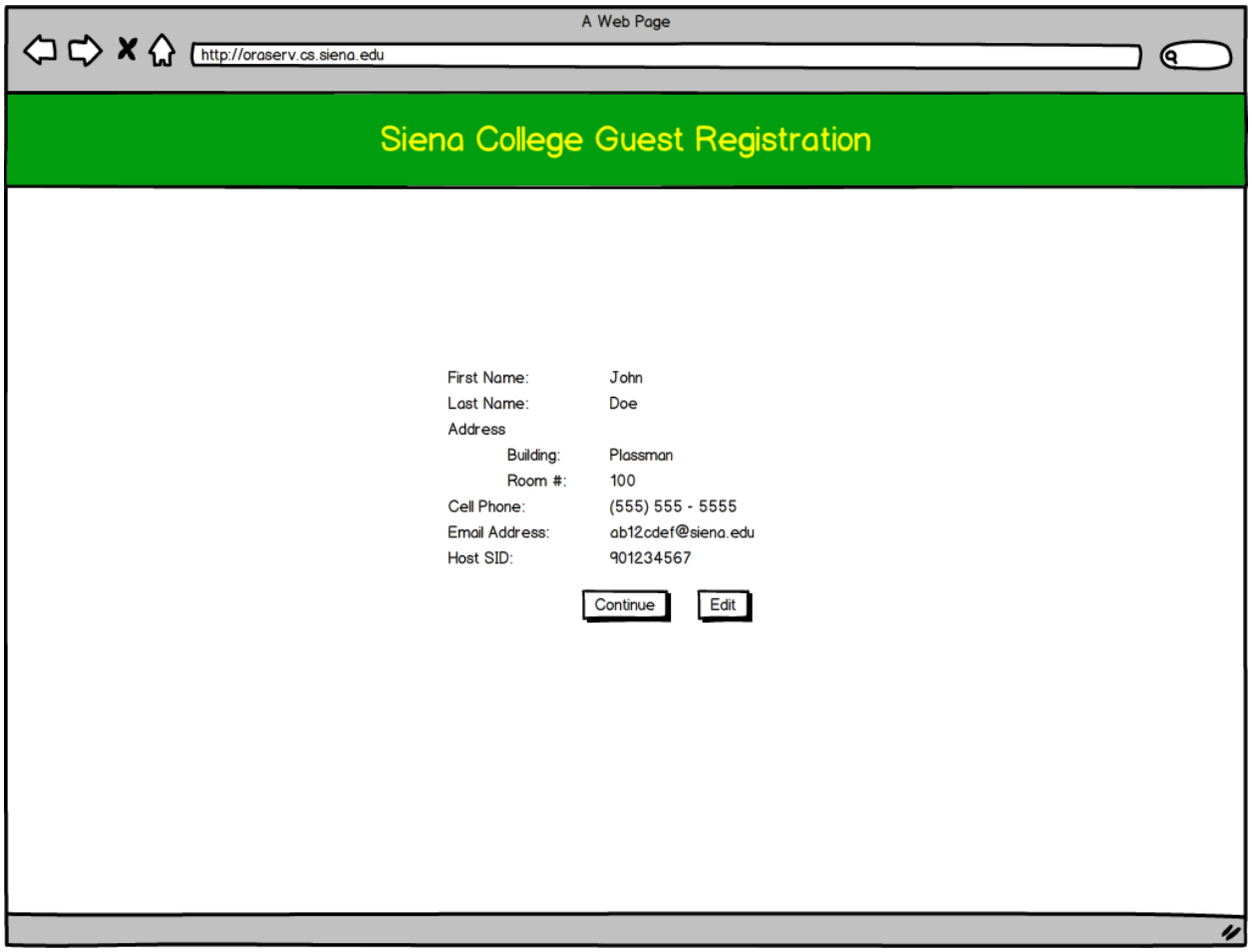
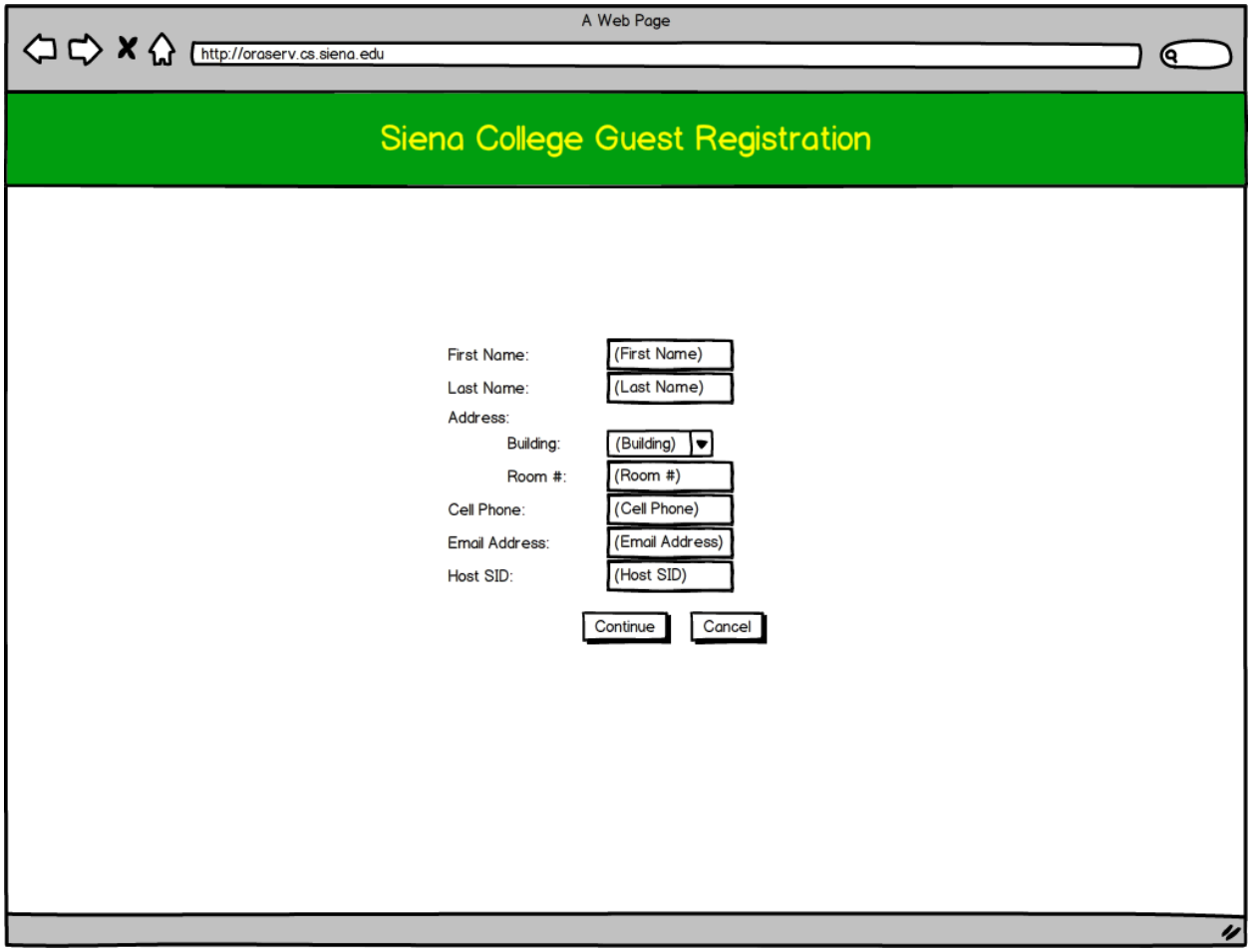
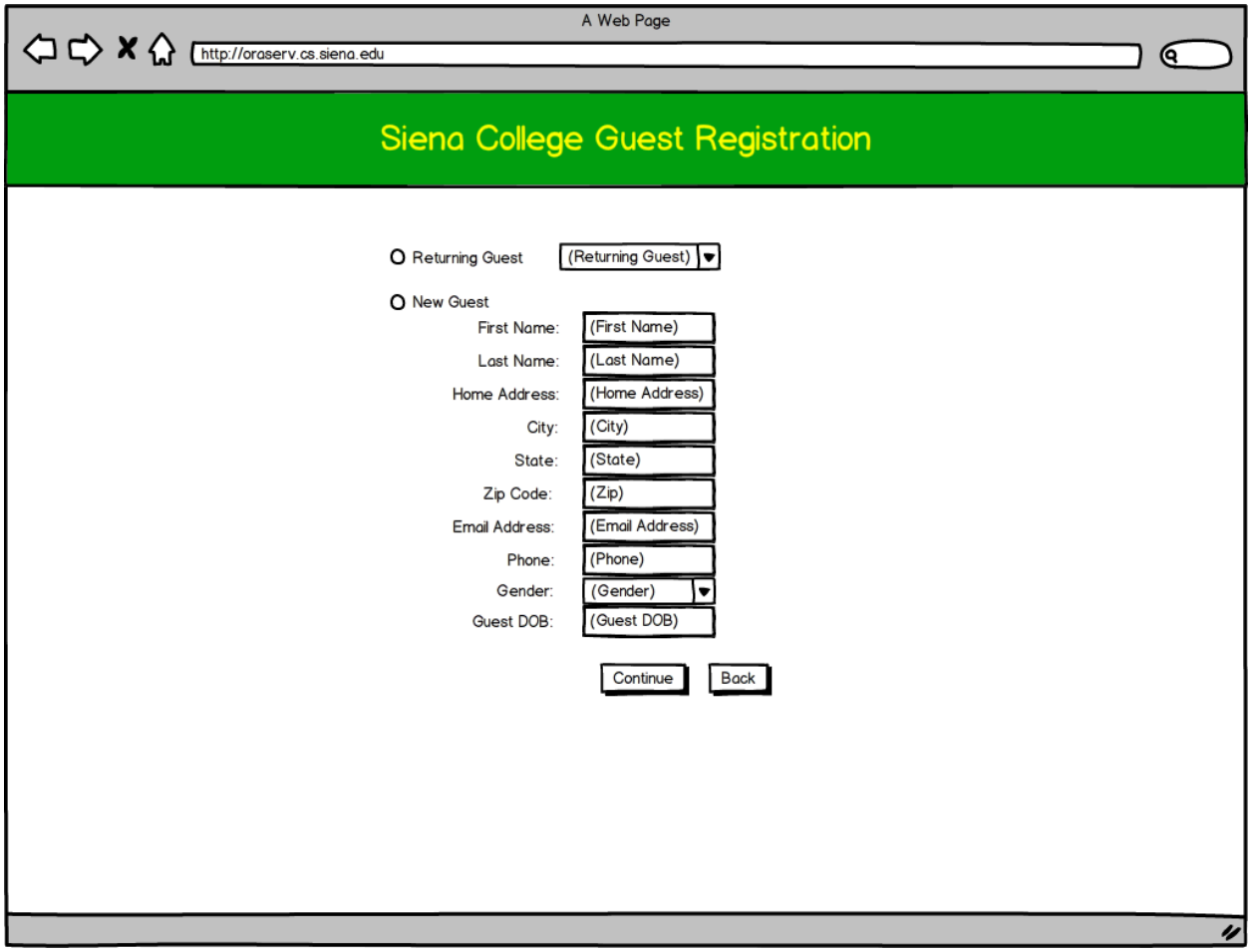


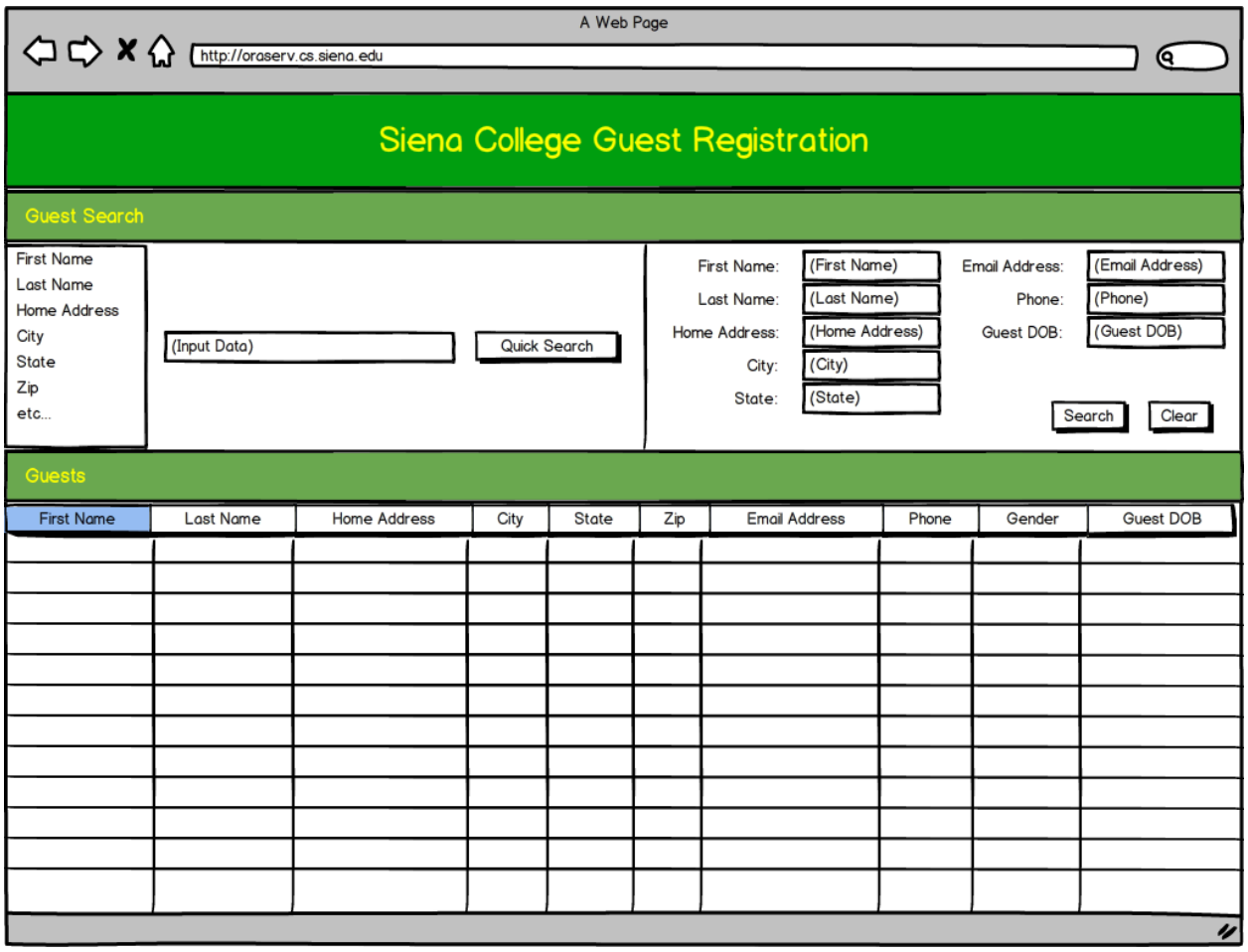
ON CAMPUS STUDENT EDIT



REGISTER GUEST



GUEST SEARCH (PUBLIC SAFETY / SYSTEM ADMINISTRATOR)



1.12 Testing Plan

1.12.1 – Overview and Strategy

A Test Plan documents the strategy that will be used to validate and ensure that a product satisfies the requirements of SCAR. The requirements of SCAR include the design specifications, the functional requirements and the non-functional requirements.

D&C Solutions' strategy will be a multi-step process that will thoroughly test the individual modules of SCAR and the system as a whole. The different tests that SCAR will be subject to are unit testing, integration testing, system testing, performance testing, and acceptance testing. In addition to the tests that SCAR will undergo, since a portion of SCAR is web-based, SCAR will be tested on all the major web browsers. The web browsers to be tested on are Google Chrome, Mozilla Firefox, Internet Explorer, and Safari. SCAR will be ready for implementation once the requirement specifications are met and all the tests are passed.

1.12.2 – Acceptance Test

The Acceptance Test for SCAR is concerned with the validation of the software based on all the functional requirements listed in section 1.7, and all the non-functional requirements listed in section 1.8 for SCAR. Unit tests will be performed on the each module of SCAR individually and then as a whole to verify SCAR's integrity. Since non-functional requirements cannot be tested using formal tests, D&C Solutions will have Public Safety and students sample the system to ascertain whether the non-functional requirements have been meet. The acceptance criteria will be met once SCAR has met all the requirements and passes all the unit tests.

1.12.3– Test Cases

A test case is a set of conditions that D&C Solutions will determine whether a process in SCAR is working properly or not. D&C Solutions will outline Unit Tests for each major process in SCAR that will determine if the major process fails or meets the acceptance criteria of the major process. The Unit Tests will be used to determine if SCAR meets the acceptance criteria of D&C Solutions' client, Mr. Papadopoulos.

1.12.4 – Unit Tests

CONFIRM

Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result
N/A	1.100	Overnight Host Email Sent	Open overnight host email	Press Submit. Check Overnight Host email	Registration form completed succesfully	Email received by overnight host with link to confirmation
N/A	1.200	Overnight Host Confirmation Accepted	Open overnight host confirmation email	Click link to confirm overnight host.	Overnight Host received confirmation email	Data is input into database. Emails sent to other users.
N/A	1.300	Overnight Host Confirmation Rejected	N/A	N/A	Registration form completed and email sent	Registration attempt times out after a certain amount of time
N/A	1.400	Student Confirmation Email Sent	Open student email	Check student email for confirmation email	Registration form completed succesfully and overnight host confirmed	Email exists
N/A	1.500	Guest Confirmation Email Received	Open guest email	Check guest email for confirmation email	Registration form completed succesfully and overnight host confirmed	Email exists
N/A	1.600	Public Safety Confirmation Email Received	Open public safety email	Check public safety email for confirmation email	Registration form completed succesfully and overnight host confirmed	Email exists

STUDENT AUTHENTICATE

Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result
N/A	1.100	Null Username Field	Leave username field blank.	Press submit.	Empty Form.	Displays message "Please enter a valid Username"
N/A	1.200	Null Password Field	Leave password field blank.	Fill in username field. Press submit.	Empty Form.	Displays message "Please enter a valid Password"
N/A	1.300	901 Field Activates	N/A	Fill in username field with valid username. Fill in password field with valid password.	Empty Form.	Activates 901 Field
N/A	1.400	Null SID Field	Leave SID field blank	Fill in username field with valid username. Fill in password field with valid password. Press Submit	Empty Form.	Displays messages "Please enter a valid SID"
N/A	1.500	Reached Max Attempts	Attempt to log in illegally 3 times	Fill out form 3 times (illegally). Press submit	Empty Form.	Displays message "Max Login Attempts Reached"
N/A	1.600	Succesful Student Login	Input correct user login information	Input valid username. Input valid password. Press Submit	Empty Form.	Move to Guest Registration Page
N/A	1.700	Incorrect Password	Input valid username, incorrect password	Input valid username. Input incorrect password. Press submit.	Empty Form.	Displays message "Incorrect password"

REGISTER

Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result
N/A	1.100	Attempt to register a guest without filling in all required data fields.	Leave required field(s) blank and attempt to submit the form	Leave all required fields blank, press submit. Fill in one required field, press submit. Fill in the next required field press submint. Continue this process until all required fields are filled in.	Student has succesfully logged into the system.	Displays Message "Required 'name of field' is missing". Displays text of reuqired fields in red.
N/A	1.200	Student uses previously registered guest to populate web form	Choose a previously registered guest from the drop down menu	Click the radio button to choose a previously registered guest. Click a guest from the drop down menu.	Student is succesfully logged into the system.	Guest fields are filled in correctly corresponding to the guest clicked.
N/A	1.300	Succesfully fill in guest registration	Fill in guest registration completely.	Fill in guest registration completely. Press submit.	Student is succesfully logged into the system.	Confirmation page is displayed.
N/A	1.400	Student registers a new guest. Guest is stored in the previously registered guess section	Register a new guest. View the previously registered guests.	Fill in the registration form succesfully.	Student is succesfully logged into the system.	Guest if found in previously registered guest section.

SEARCH

Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result
N/A	1.100	Search is succesful	Choose search criteria. Input Search Data.	Choose search criteria. Input search data. Press Submit	System Administrator or Public Safety Logged in.	Search results are succesfully displayed.
N/A	1.200	Create new search	Choose new search criteria	Choose data to search on. Choose range to search on. Choose data to search on. Press Submit.	System Administrator or Public Safety Logged in.	Search results are succesfully displayed.
N/A	1.300	Print search results	Print results	Click print results.	System Administrator or Public Safety Logged in. Search has already occurred.	Results should print in a readable document.

ADMINISTRATOR AUTHENTICATE

Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result
N/A	1.100	Null Username Field	Leave username field blank.	Press submit.	Empty Form.	Displays message "Please enter a username"
N/A	1.200	Null Password Field	Leave password field blank.	Fill in username field. Press submit.	Empty Form.	Displays message "Please enter a password"
N/A	1.300	901 Field Does Not Activate	N/A	Fill in username field with valid Public Safety or System Administrator username. Fill in password field with valid password.	Empty Form.	901 Field Does not Activate
N/A	1.400	Reached Max Attempts	Attempt to log in illegally 3 times	Fill out form 3 times (illegally). Press submit	Empty Form.	Displays message "Max Login Attempts Reached"
N/A	1.500	Succesful System Administrator Login	Input correct user login information	Input valid username. Input valid password. Press Submit	Empty Form.	Move to System Administrator Home Page
N/A	1.600	Succesful Public Safety Login	Input correct user login information	Input valid username. Input valid password. Press Submit	Empty Form.	Move to Public Safety Home Page
N/A	1.700	Incorrect Password	Input valid username, incorrect password	Input valid username. Input incorrect password. Press submit.	Empty Form.	Displays message "Incorrect password"

CONTROL SYSTEM

Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result
N/A	1.100	System Administrator Turns off Registration System	System Administrator chooses to shut down registration system	System Administrator Shuts Down System. Attempt to register new student.	System Administrator is succesfully logged into system. Registration system is currently on.	Message is displayed "Guest Registration System is currently Shut Down"
N/A	1.200	System Administrator Turns on Registration System	System Administrator chooses to turn on registration system	System Administrator Turns on System. Attempt to register new student.	System Administrator is succesfully logged into system. Registration System is currently off.	Registration is allowed.
N/A	1.300	System Administrator creates new user	System Administrator inputs valid new user data.	System Administrator fills in all fields for new user. Press Submint	System Administrator is succesfully logged into system	Confirmation of New User Created
N/A	1.400	System Administrator edits max number of guests	System Administrator inputs new value for max number of guests	System Administrator inputs a new number for maximum guests. Press Submit.	System Administrator is succesfully logged into system	Confirmation of max number changed.
N/A	1.500	Notification of guest quota approaching	Set current number of guests within specific amount of max number of guests	Set current guests within an amount of max number of guests. Log in to system administrator email.	System Administrator is succesfully logged into system	Email should exist stating guest quota is approaching.

1.12.5 – Exception Handling

There are various aspects of SCAR that are susceptible to errors that are outside the system's control. SCAR will have systems in place to catch any errors in such a way that will prevent any loss of data or crashes of the system. D&C Solutions recognizes that more exceptions may be identified as the implementation process continues, but the exceptions which have been recognized to this point include:

- Any user attempts to log in with improper or missing credentials.
- Any concurrency issues with the web form interacting with the database.
- If the database fails to respond.
- If the server fails to respond.

1.13 Development Environment and Production Environment

DEVELOPMENT ENVIRONMENT

Software Engineering Lab's Windows Computer
Model: Dell OptiPlex 760
Operating System: Windows Vista Enterprise
Processor: Intel Core 2 Duo 2.93 GHz
RAM: 4GB
HDD: 300GB

Software Engineering Lab's Macintosh Computer
Model: iMac 5.1
Operating System: Mac OS X
Processor: Intel Core i5 2.5 GHz
RAM: 4GB (1333 MHz DDR3)
Graphics: AMD Radeon HD 6750M 512MB
HDD: 500GB

Software
Adobe Dreamweaver, Adobe Fireworks, Apache HTTP server, Eclipse, Google Chrome, Internet Explorer, Mozilla Firefox, MySQL, Notepad++ and Safari

D&C Solutions may also use personal laptops during the design of SCAR.

Our server is an x86 64 PC

- Hostname: oraserv.cs.siena.edu
- CentOS 5.2 (final)
- Kernal: 2.6.18-92.el5
- Intel Xeon 2.66 GHz CPU
- 8 GB of Memory
- Java SE Runtime Environment (build 1.6.0 10-rc-b28)
- GCC Version 4.1.2 20071124 (Red Hat 4.1.2-42)

PRODUCTION ENVIRONMENT

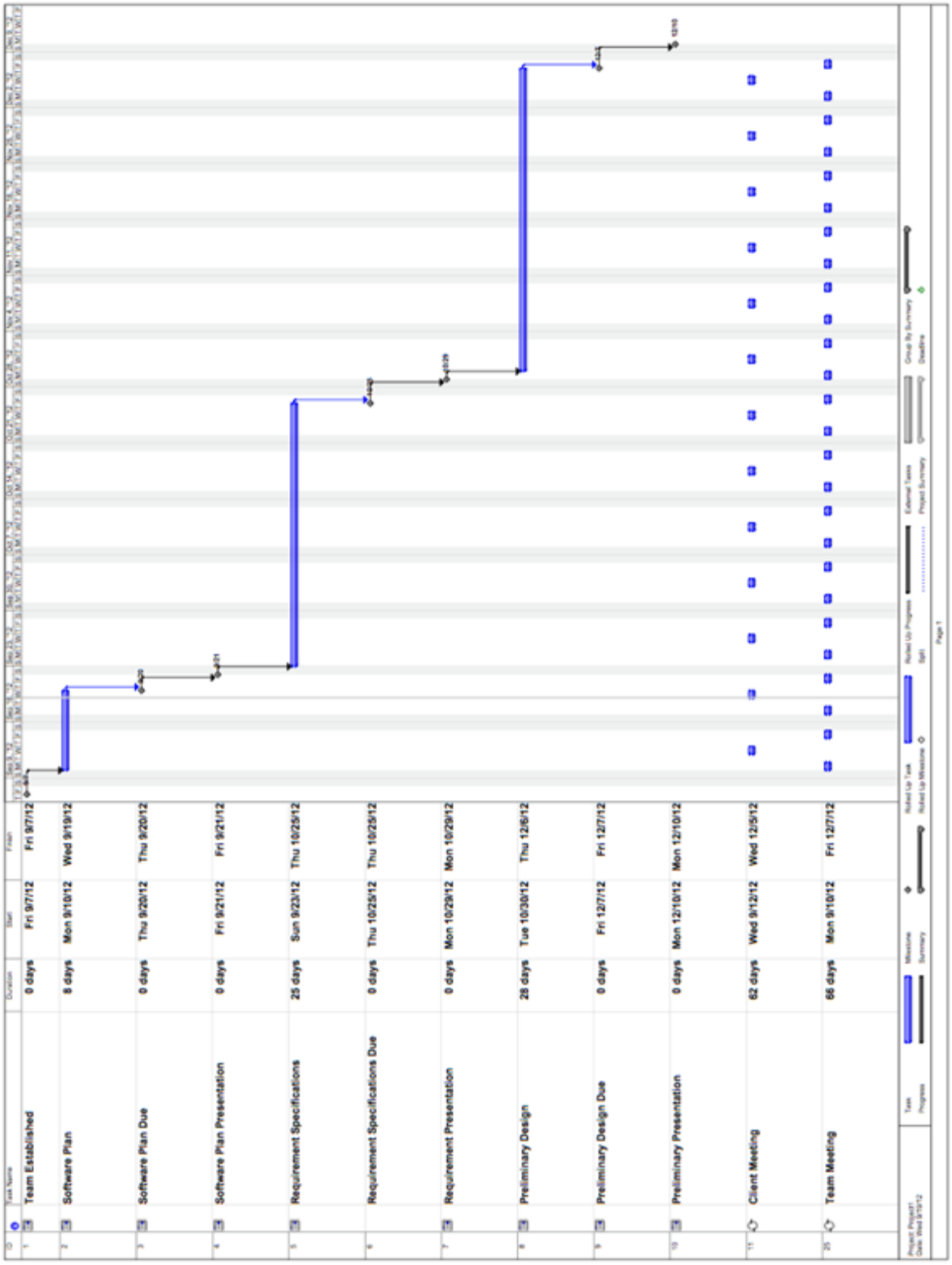
Our production environment is a web based application to be used on oraserv.cs.siena.edu or any server desired by the client.

Appendix A- Glossary of Terms

- Adobe Dreamweaver: web design software
- Adobe Fireworks: graphics editor
- Apache HTTP Server: open source web server
- BlueJ: java integrated development environment
- C-Board: A proprietary software used to read SID cards.
- Eclipse: open source integrated development environment
- GB: Giga-Byte
- GHz: Giga-Hertz
- Google Chrome: web-browser developed by Google
- Guest (As Defined in Siena Life-Student Handbook): any person who is visiting a Siena residence living facility and is not affiliated with the college as a current student, employee or faculty member
- GRID: Guest Registration Identification
- HDD: Hard Disk Drive
- Internet Explorer: web-browser developed by Microsoft
- MHz: Mega-Hertz
- Microsoft Office 2007-2010: word processing package developed by Microsoft
- Mozilla Firefox: web-browser developed by Mozilla Corporation
- MySQL: open source relational database management system used in many web applications
- Notepad++: free source code editor

- Operating System: collection of software that is used to manage computer software
- OS: Operating System
- RAM: Random-Access Memory
- Safari: web-browser developed by Apple
- SCAR: Siena College Accurate Registration
- SID: Student Identification
- Siena Life – Student Handbook: a resource and reference guide provided to Siena College students with information regarding; operations, policies, guidelines, terms, conditions, and regulations at Siena College
- SQL: Structured Language Query
- Vista: Microsoft Windows operating system

Appendix B- Timeline (Gantt Chart)



Appendix C- Siena Life (Pg. 53 – 55)

13. The DOS or designee will normally inform the respondent(s) of the outcome in writing within three business days of the conclusion of the hearing. This time frame may be adjusted by the College for unusual circumstances (such as, but not limited to: breaks, illness, weather, etc.).

14. Additional notes:

    a. The Board, at its discretion, reserves the right to reconvene for purposes of hearing from witnesses and/or reviewing additional information. When this occurs, the time frame may be adjusted.

    b. A hearing for purposes of sanction recommendations may be convened using an abbreviated form of the above procedure.

** In cases in which the DOS amends or rejects a recommended finding and/or sanction as presented by the Student Conduct Review Board, the DOS will include in the student folder a rationale for that decision not to accept as recommended.*

C. **The Appeal Process**

1. Respondents have five business days from the date of the notice of finding(s) and sanction(s) to submit a request for appeal to the vice president for student affairs. Unless noted otherwise in writing, sanctions are imposed and in effect, pending any appeal.

2. The appeal must be in writing, written by the student, and must specify the grounds for the appeal. The College does not accept appeals submitted by others (including parents and attorneys on behalf of a student); the student must file his/her own appeal.

3. Students may appeal the finding(s) of responsibility based upon new evidence that was unavailable or that a reasonably diligent person could not have discovered prior to or during the hearing or procedural error.

4. The sanction(s) may be appealed on grounds that the sanction(s) imposed are disproportionate given the respondent's prior disciplinary record or the severity of the offense(s).

5. The vice president for student affairs will notify the student in writing of his/her decision. The decision of the vice president for student affairs is final.

VISITATION AND GUEST POLICY

Definitions

The following definitions will apply to the different rules for visitation in the Siena residence living facilities:

- A *guest* is defined as any person who is not affiliated with the College as a current student, employee or faculty member.
- A *visitor* is defined as a Siena College student, staff, faculty or employee who is not an assigned resident of the particular room, suite or townhouse. College officials and employees who are in student rooms for the purposes of fulfilling job responsibilities are not considered visitors.
- *Commuter* students visiting the residence halls are considered visitors and therefore must abide by the visitation policy. Commuter students visiting the residence halls with non-students (guests) are required to register their guests.

Philosophy Regarding Visitation Among Students and Hosting of Guests

Siena's policies regarding visitation and hosting guests have been shaped by four values from the College's Catholic and Franciscan heritage: the virtue of hospitality, concern for the common good, reverence for the individual and the fundamental goodness and sanctity of human sexuality.

To be hospitable, to welcome the stranger, to allow one's space and one's routine to be rearranged temporarily by a guest, to treat each visitor as if he or she were a divine gift from heaven — these are ancient and venerable customs within the human family and the Franciscan tradition. On the other hand, hospitality toward guests must be balanced by concern for the common good of all who call the residence halls their home. The College's residences are neither hotels nor private apartment buildings. They are spaces in which communities form and function. These communities consist of students, resident directors, resident assistants, campus ministers and friars-in-residence, as well as support staff. The individual student must always exercise his or

her right to offer hospitality to guests within the context of the community's right to protect and promote its way of life by insisting that certain norms and procedures be followed both by residents and visitors. A community that does not welcome guests cannot call itself truly human, Christian or Franciscan. An individual who abuses a community's hospitality cannot call him or herself a guest.

All behavior in Siena's residence halls must be governed by the core value of reverence for others: reverence and respect for one's guests, one's hosts, one's roommate(s), one's wing, floor and hall mates. Franciscan respect goes far deeper than mutual tolerance of one another. It affirms the God-given dignity of each person who has been uniquely created in God's image, and it steadfastly refuses to treat other human beings as objects that can either be disregarded and ignored, or used, abused or manipulated for one's own selfish ends.

Finally, the College's religious heritage teaches that human sexuality is a gift from God, a gift whose goodness and beauty should never be trivialized or demeaned. In the Christian tradition, sexual behavior, like all other areas of human existence, falls under the commandment of Jesus to "love one another as I have loved you," a love defined by Jesus as the laying down one's life for the other. Physical self-giving in sexual relations is the symbolic expression of willingness to place all that one is and all that one has at the disposal of and in the service of the other. As such, we believe that the proper context for sexual union is an all-encompassing union of life and love within the covenant of marriage.

At Siena College, hosting visitors of the campus community and guests is a privilege and not a right. In keeping with the Franciscan and Catholic identity of the College and our emphasis on respect of the individual, the following rules and regulations of the College's visitor and guest policies are meant to promote these values, to protect residents and their guests and to safeguard the quality of our life together.

Regulations

1. All guests must be registered (not just overnight guests.) The safety of the Siena Community, including guests, is paramount. Accounting for guests in times of emergency is necessary to maintain a safe community for Siena students and staff in addition to aiding emergency personnel in times of crisis. To register a guest, the host must complete a guest registration form available online at www.siena.edu/studentaffairs/visitation_policy.asp. The guest registration form must be completed prior to the arrival of one's guest. Guests are to be provided with a copy of the form and are expected to keep it in their possession for the duration of their stay.

2. If resident students become separated from their guests, if guests become disruptive or noncompliant, or if at any point during the guest's stay, the resident student no longer wishes for the individual(s) to be a guest, it is the resident students' responsibility to contact Public Safety immediately. If plans change for any reason and the guest is no longer with the resident student, that student must register the guest again with a new host.

3. Students are permitted to host/register a maximum of two guests at any one time (regardless of whether this is an overnight or shorter stay). Students hosting guests and/or visitors must ensure that doing so does not disrupt any roommate's right to expect to be able to read, study and sleep in their room free from the undue interference of guests/visitors. Siena College students' primary purpose is to achieve academic success. We strive to create living and learning environments within the residence halls/areas that are conducive to study, sleep and healthy living. The right of any resident to sleep, study, or simply enjoy privacy will always take precedence over a roommate's privilege to host guests/visitors in the room. A student's right to have a guest/visitor is, in all cases, superseded by the roommates', suitemates' or townhouse-mates' right to uninterrupted use of the room/suite or townhouse. The privacy of the roommate(s) will take priority over a gust/visitor. A roommate should not be compelled to leave the room in order to accommodate a guest or visitor, nor should he or she be placed in situations that might cause embarrassment or inconvenience.

4. Guests with vehicles must obtain a parking pass from Public Safety. Unregistered vehicles of guests are subject to be towed in accordance with traffic rules and regulations. To obtain a parking permit, guests must provide a copy of the guest registration form, a valid license and vehicle registration.

5. Guests are not permitted to bring alcohol to campus regardless of their age or the age of their host.

6. Any guest who violates College policy or state and federal laws may be required to leave the College immediately. The person may be notified in writing that he or she is banned from College property until further notice.

7. A student may host overnight guests on a limited and infrequent basis. Conversely, any individual guest may only stay overnight anywhere on campus on a limited and infrequent basis, regardless of host(s). An individual guest is limited to

54

one two-night overnight stay on campus per 30 days. For an exception to this limit, a student should seek permission from the residence director on duty, who may be contacted via Public Safety.

8. To ensure a safe campus supportive of the College's mission, the College reserves the right to restrict guests. Students may not be permitted to register/host guests during specified weekends or high-risk time periods, which are determined at the discretion of the vice president for student affairs. Any such restrictions will be announced in advance. In addition, guests are not permitted during final-exam time periods in order to support student academic success. Guests are also not permitted during Thanksgiving, Christmas, spring break or Easter break. Guests are restricted during summer session housing as designated on the summer housing agreement.

9. Each member of the Siena College community is responsible for actively promoting an educational/living environment that is free from incidents of sexual harassment.

10. Students may only host overnight guests/visitors of the same gender, 16 years of age or older (including family members), overnight. Any guests of the opposite gender must either find off-campus accommodations or they may stay with another student of the same gender, who must be identified on the guest registration form. Siblings Weekend: All siblings (defined as a student's brother or sister) will be allowed on this weekend only to stay with their sibling student of the opposite gender, if applicable. Students participating in the program will be required to register their siblings formally through the Siblings Weekend program or will be subject to disciplinary action if they do not.

11. Sexual intimacy is not permitted on the Siena College campus.

12. Guests and visitors are required to use bathroom facilities designated for their gender.

13. Visitation hours and designated 24-hour spaces:

    - Visitation hours are defined as the time period that students living on campus may host visitors and guests of the opposite gender in their individual rooms as well as when they may be on single gender floors and/or wings. Visitation hours apply to the individual residence halls and the individual bedrooms and upstairs of all townhouses.
    - After visitation hours, any student (including commuters) in a residential facility other than their assigned residence must be accompanied by a resident who is assigned to that building and follow the gender-related guidelines.
    - Visitation hours in all campus residences are:
        - Sunday-Thursday: 9:00 a.m. – 1:00 a.m.
        - Friday and Saturday: 9:00 a.m. – 2:00 a.m.
    - 24-hour visitation is permitted in the lobbies of each residence hall, the main lounge in Plassmann, the lobby lounge in Hennepin, all lounges in Padua, the first floor lounge in Ryan, the first floor living room and dining areas of the townhouses, garden level, dining room, lobby, all lounges of the New Hall and the fifth floor lounge in Hines. Living rooms, common areas, lounges and lobbies may not be used as sleeping quarters. Laundry facilities in each hall are for the sole purpose of doing one's laundry, with 24-hour access

14. Cohabitation is defined as living together. Only assigned residents of a townhouse, suite or room may take up residence/live in the assigned room/suite/townhouse. The College does not permit anyone to live in a room/suite or townhouse except those assigned to that room by the College. Cohabitation is not permitted except by assigned roommates.

MORE ON ALCOHOL AND DRUG POLICIES

The problems associated with drug and alcohol abuse are a major concern in this country. As such, the passage of the *Drug-Free Schools and Communities Act Amendments* has placed requirements on institutions of higher education to develop policies and to provide information to students on drug and alcohol abuse, which Siena College has done herein.

This section provides students with the College's alcohol and drug policy, as well as information on the health risks associated with drug and alcohol abuse. This section also provides information, counseling and rehabilitation services available, and the federal, state and College sanctions that may be imposed for violations. The College collaborates with civil authorities. Violations of the Siena College alcohol and drug policy that are also violations of federal state or local law may be referred to

55