Land Record Digitization using a distributed approach

Akash Kale 4241

Anuj Kanetkar 4242

Shriniwas Nayak 4256

Problem Statement

Land Records and titles are never managed properly in Government offices and the offices are distributed over many locations. Often when land is bought and sold the records are not updated in Government registers. This results in discrepancies in land records.

Objectives

- To add, alter, delete, and modify land records in a distributed system.
- To develop a highly scalable system.
- To develop a fault tolerant and reliable system.
- To ensure security and privacy of data.
- Ensure database consistency at all times in the system

Characteristics of DS met

- Scalability
- Fault Tolerance
- Transparency
- Concurrency

Algorithms Used

Peterson's Algorithm :

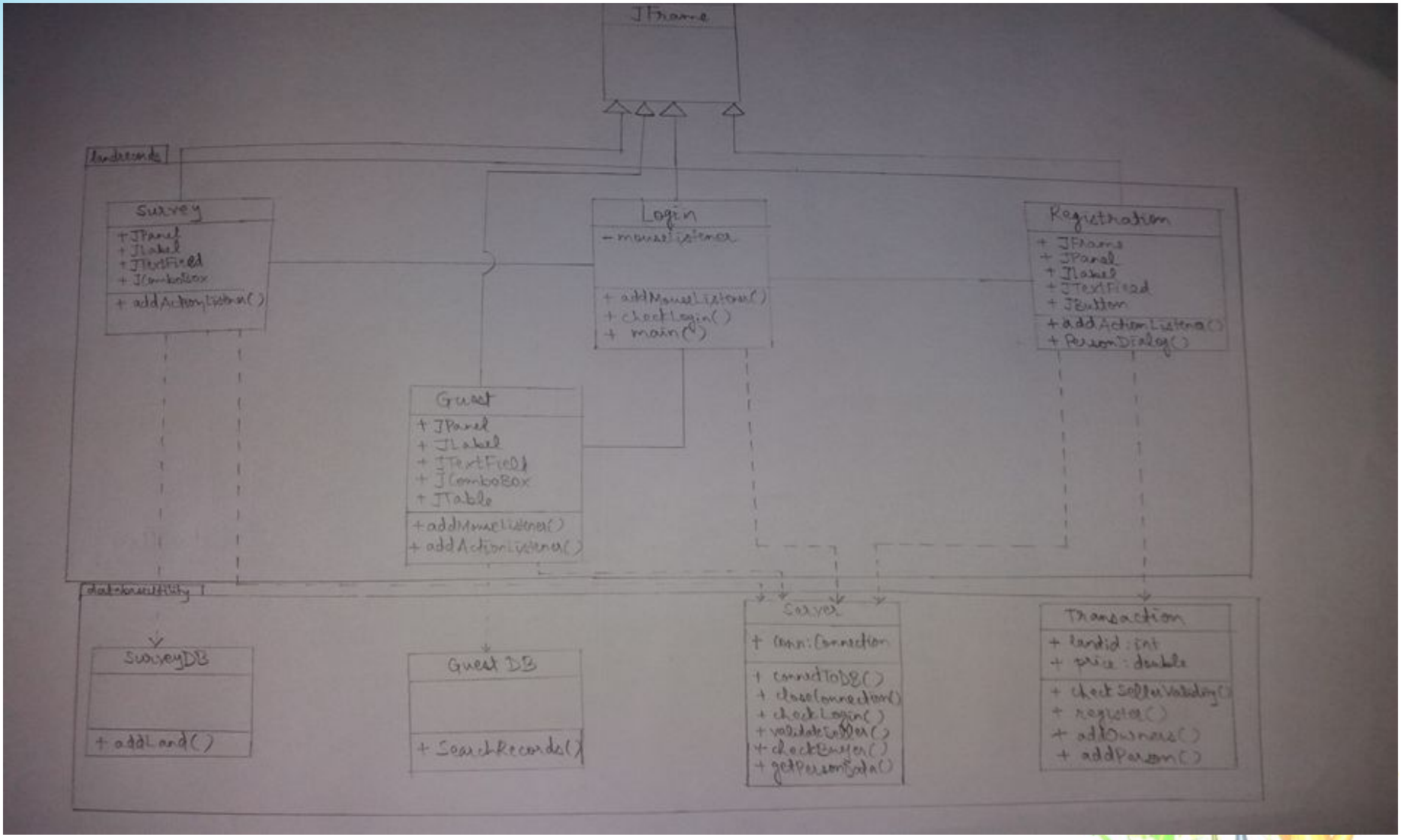
Peterson's algorithm is used for implementing mutual exclusion in a shared memory model for a DS, thereby ensuring that only one site at the most is in critical section at any gives time.

System Functionality

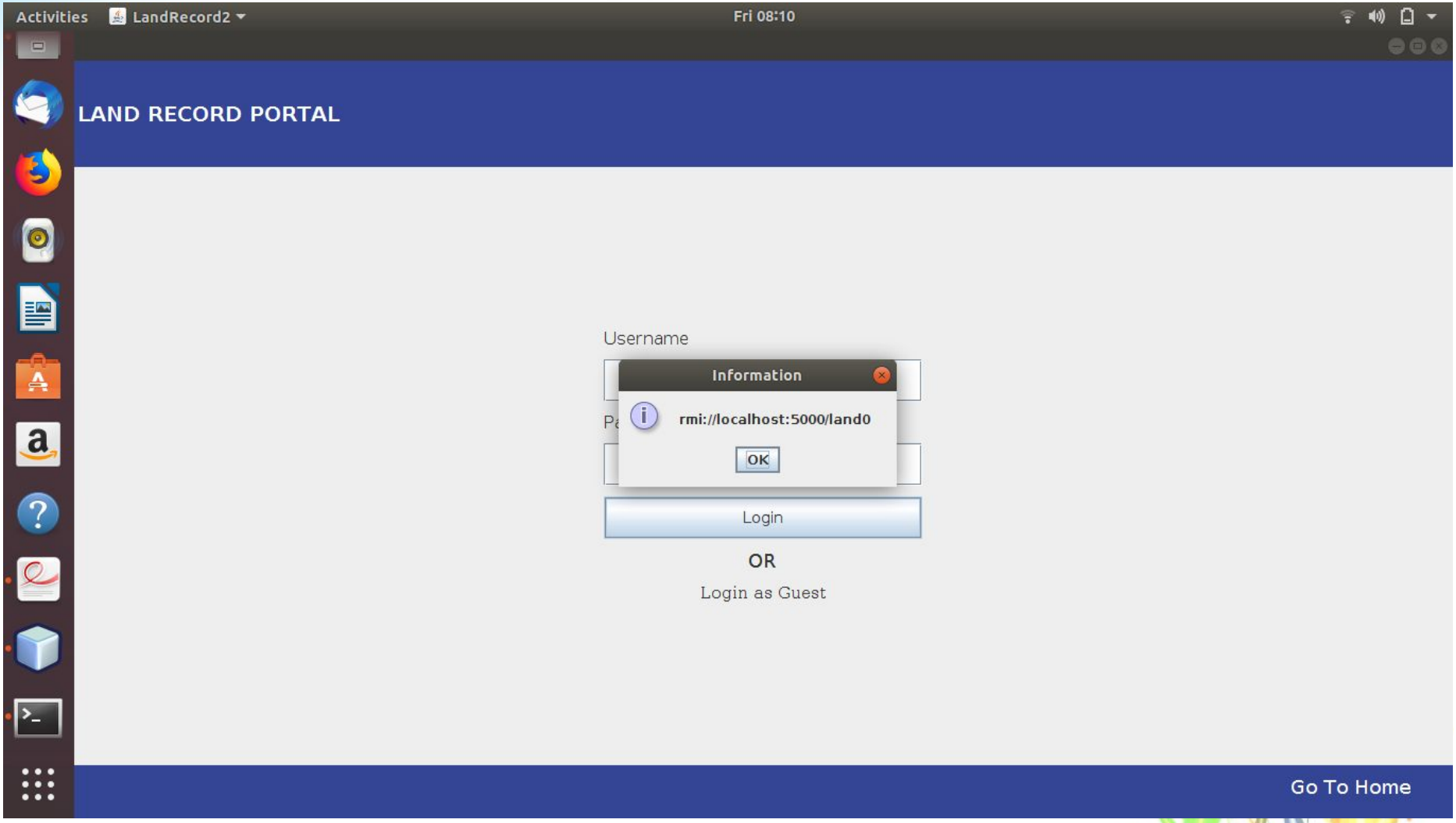
The project UI has four modules –

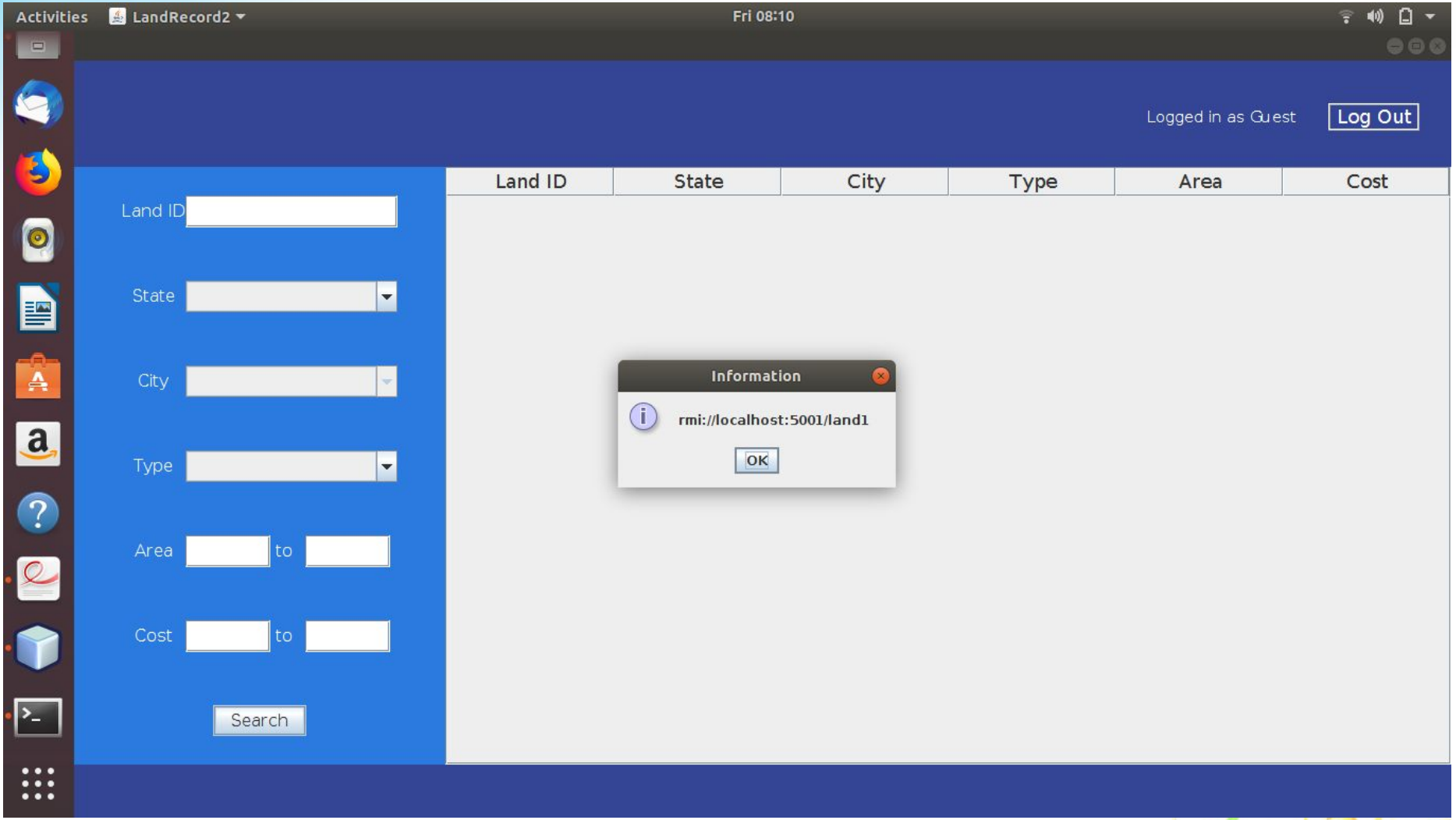
- Home and Login
- Registration
- Survey
- Guest

System High Level Design

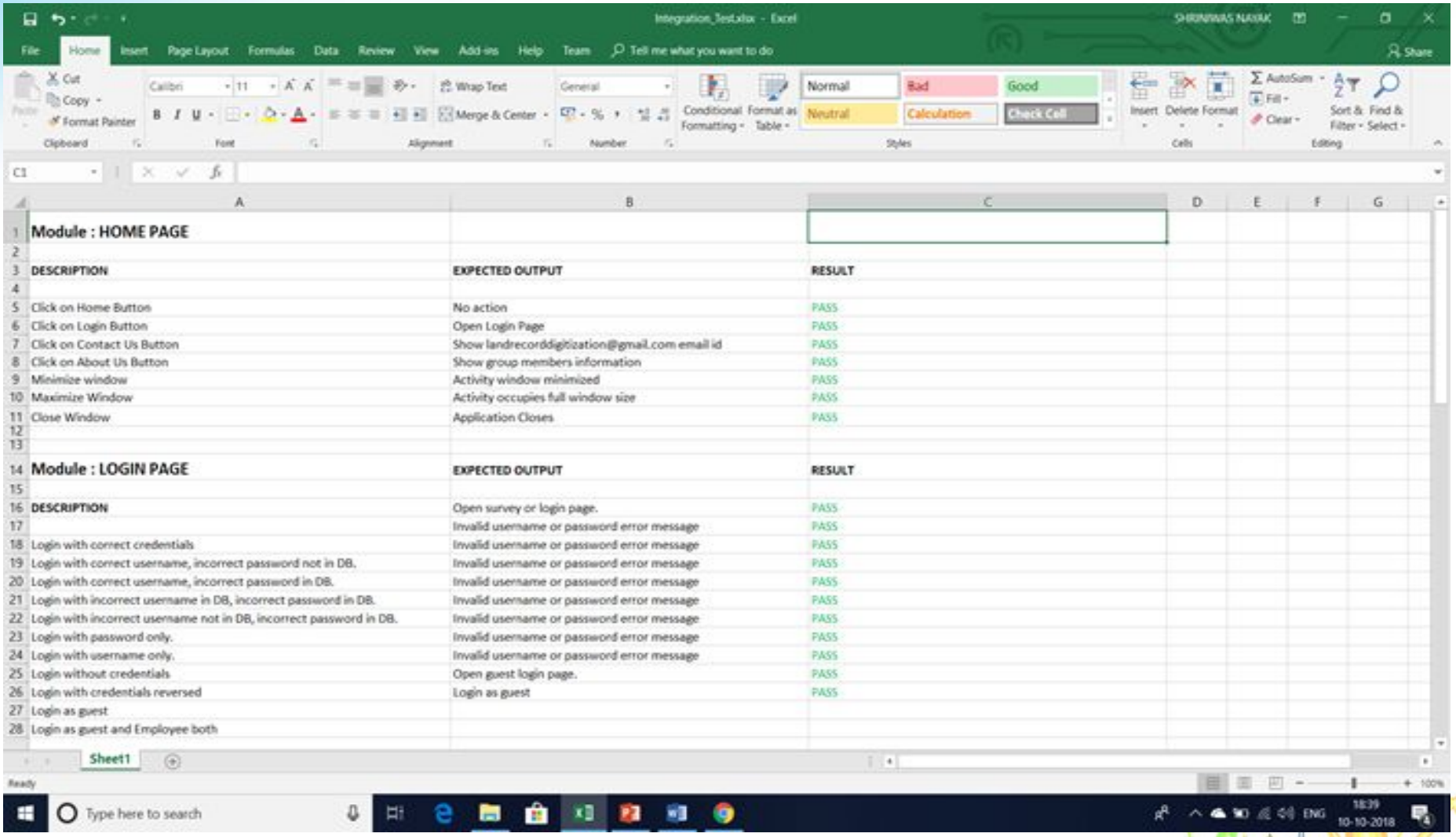


Results


Activities
LandRecord2
Fri 08:10
LAND RECORD PORTAL
Username
Information
rmi://localhost:5000/land0
OK
Login
OR
Login as Guest
Go To Home


Activities
LandRecord2
Fri 08:10
Logged in as Guest
Log Out
Land ID
State
City
Type
Area
to
Cost
to
Search
Land ID
State
City
Type
Area
Cost
Information
rmi://localhost:5001/land1
OK

Testing of System



Module : HOME PAGE		
DESCRIPTION	EXPECTED OUTPUT	RESULT
Click on Home Button	No action	PASS
Click on Login Button	Open Login Page	PASS
Click on Contact Us Button	Show landrecorddigitization@gmail.com email id	PASS
Click on About Us Button	Show group members information	PASS
Minimize window	Activity window minimized	PASS
Maximize Window	Activity occupies full window size	PASS
Close Window	Application Closes	PASS
Module : LOGIN PAGE	**EXPECTED OUTPUT**	**RESULT**
DESCRIPTION	Open survey or login page.	PASS
	Invalid username or password error message	PASS
Login with correct credentials	Invalid username or password error message	PASS
Login with correct username, incorrect password not in DB.	Invalid username or password error message	PASS
Login with correct username, incorrect password in DB.	Invalid username or password error message	PASS
Login with incorrect username in DB, incorrect password in DB.	Invalid username or password error message	PASS
Login with incorrect username not in DB, incorrect password in DB.	Invalid username or password error message	PASS
Login with password only.	Invalid username or password error message	PASS
Login with username only.	Invalid username or password error message	PASS
Login without credentials	Open guest login page.	PASS
Login with credentials reversed	Login as guest	PASS
Login as guest		
Login as guest and Employee both		

References

[1]https://docs.oracle.com/javase/8/docs/technotes/guides/rmi/hello/hello-world.html (Date visited : 13/9/19 time : 15:30)

[2] https://docs.oracle.com/javase/tutorial/rmi/ (Date visited : 15/9/19 time : 15:30)

[3] “Distributed Systems Principles and Paradigms” by : AS Tanenbaum, Maarten Van Steen, 2nd Edition, Publication : Pearson, ISBN 0-13-239227-5

Thank You !