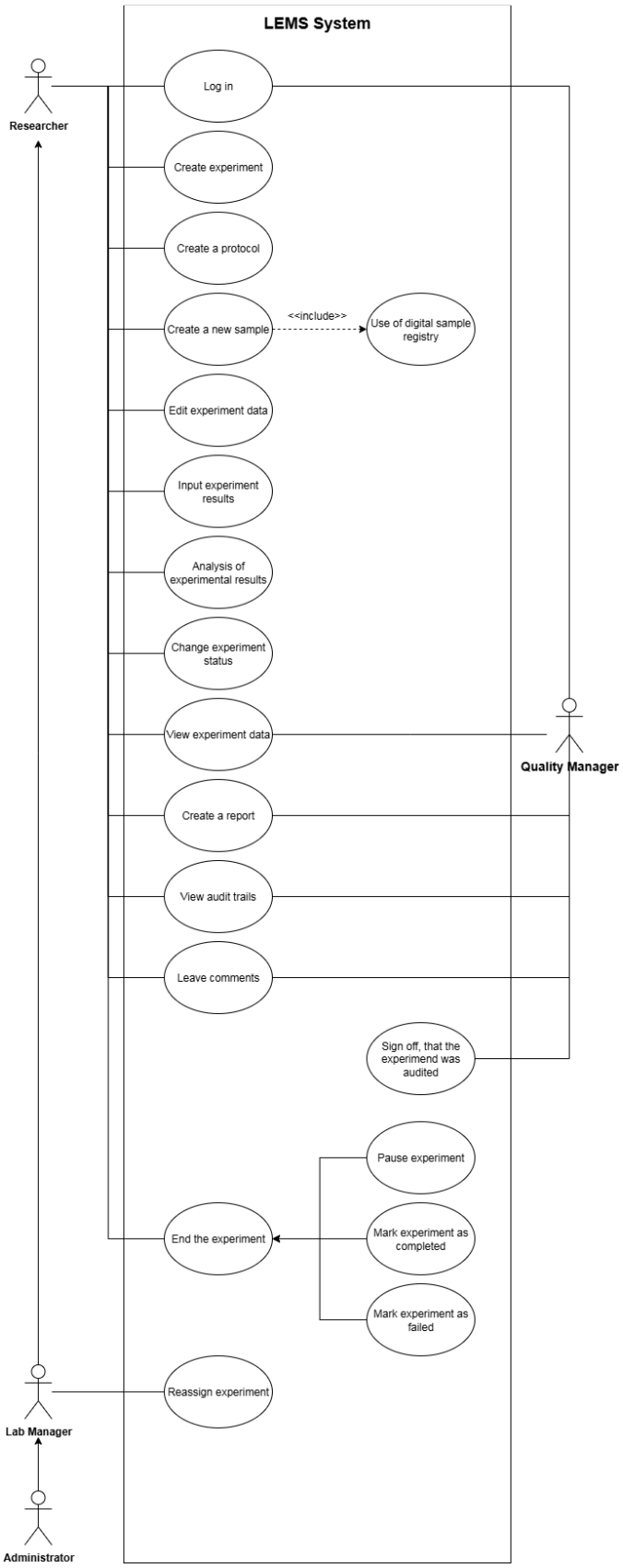
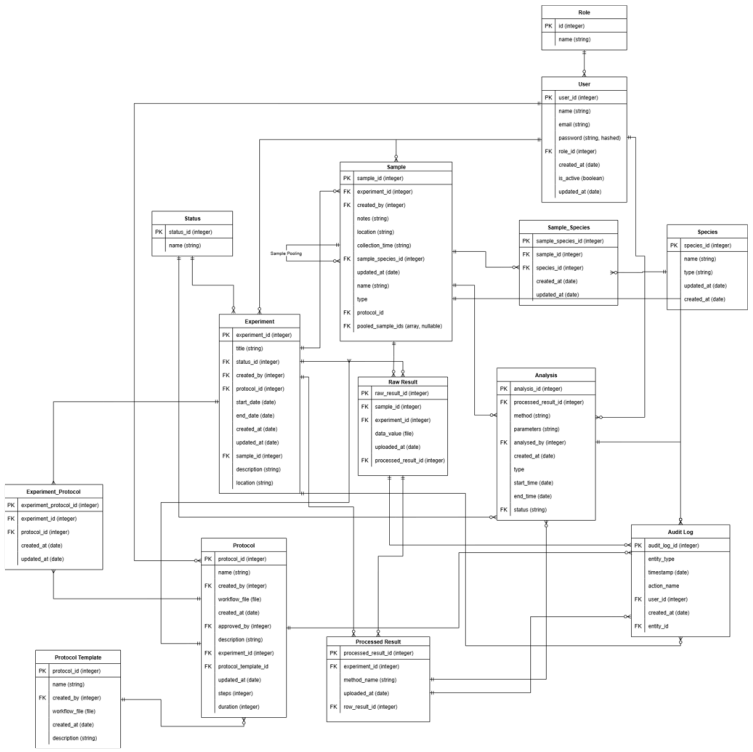
Requirements modelling

Use case diagram



Entity Relationship (ER) Diagram



Primary Key (PK): It is a unique identifier for each table to make sure that there are no two rows with similar value.

Foreign Key (FK): A column and identifier which creates a relationship between two tables. It is the primary key of another table/entity

For many to many relations, we use **junction tables**. In relational databases many to many relations do not support directly connections.

For preventing invalid or inconsistent role values we use role as seperate table/entity. When role definition need additional attributes/permissions having a separate table makes it easier. Also we centralize the role logic. Same logic can also apply to Status table as well.

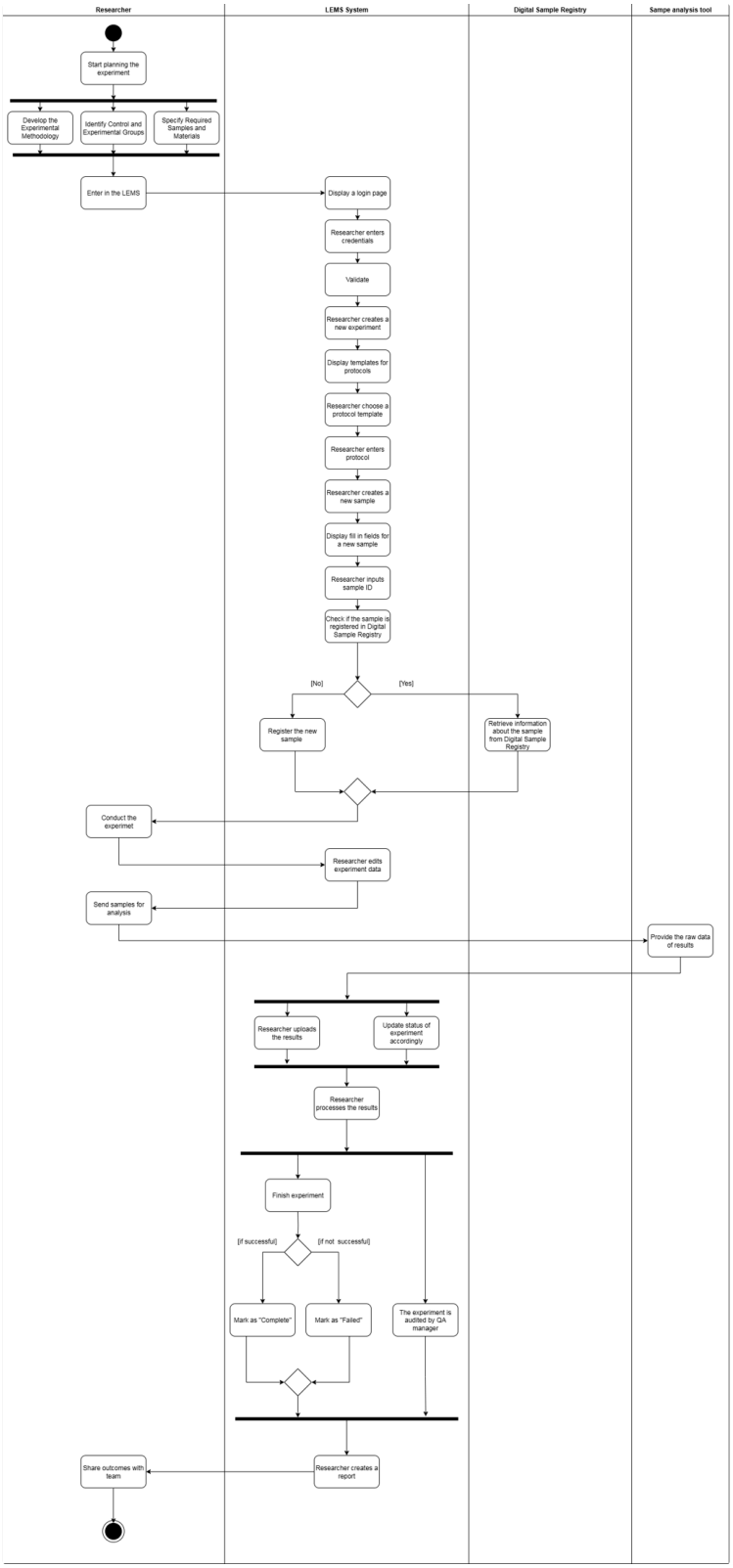
For sample pooling, we decided to use Recursive relationship which is a relationship between two or more entities of the same entity. Here the same entity set participates more than once in a relationship type for each instance.

Activity Diagram

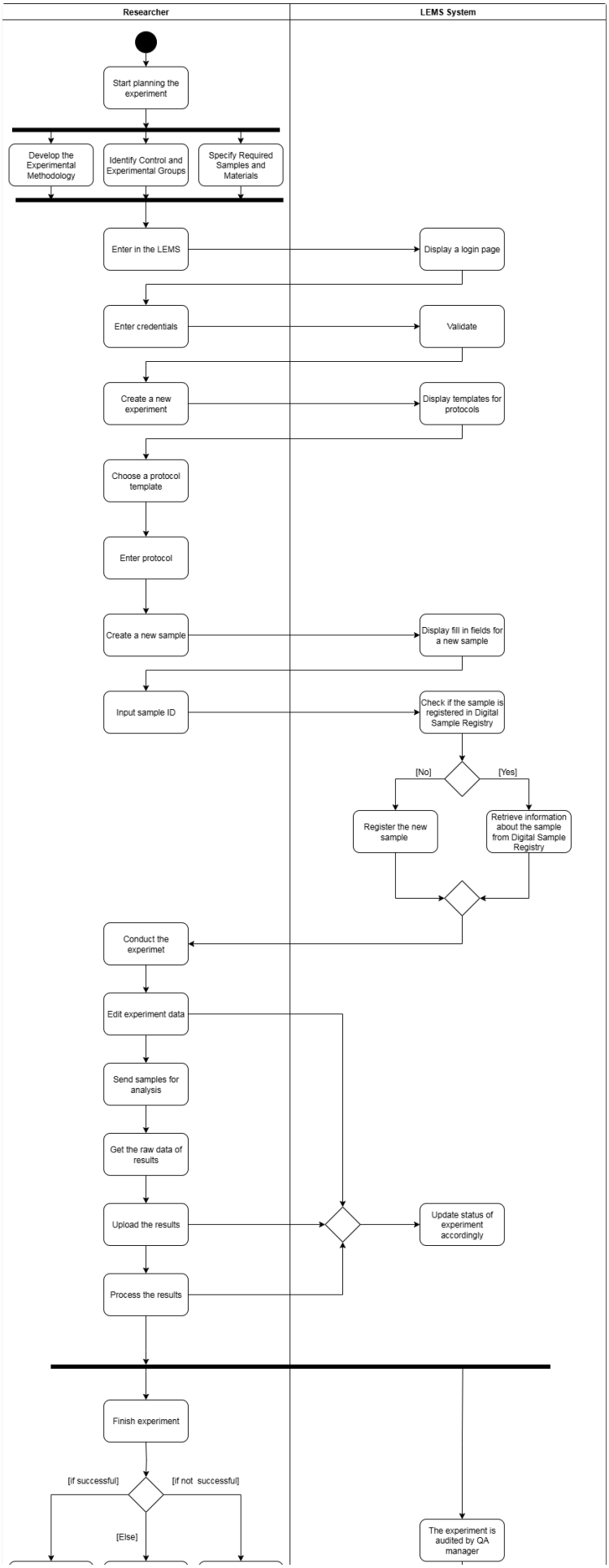
"As-is" Diagram

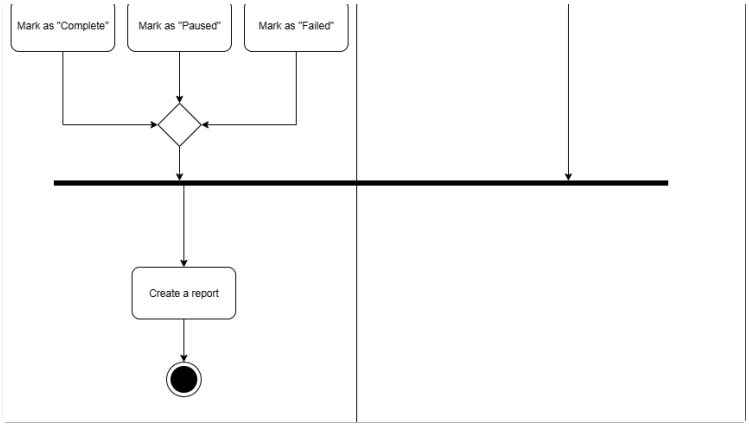
“To-be” diagram (Researcher’s point of view)

Updated:


Researcher
LEMS System
Digital Sample Registry
Sampe analysis tool
Start planning the experiment
Develop the Experimental Methodology
Identify Control and Experimental Groups
Specify Required Samples and Materials
Enter in the LEMS
Display a login page
Researcher enters credentials
Validate
Researcher creates a new experiment
Display templates for protocols
Researcher choose a protocol template
Researcher enters protocol
Researcher creates a new sample
Display fill in fields for a new sample
Researcher inputs sample ID
Check if the sample is registered in Digital Sample Registry
[No]
[Yes]
Register the new sample
Retrieve information about the sample from Digital Sample Registry
Conduct the experimet
Researcher edits experiment data
Send samples for analysis
Provide the raw data of results
Researcher uploads the results
Update status of experiment accordingly
Researcher processes the results
Finish experiment
[if successful]
[if not successful]
Mark as "Complete"
Mark as "Failed"
The experiment is audited by QA manager
Share outcomes with team
Researcher creates a report

old version:


Researcher
LEMS System
Start planning the experiment
Develop the Experimental Methodology
Identify Control and Experimental Groups
Specify Required Samples and Materials
Enter in the LEMS
Display a login page
Enter credentials
Validate
Create a new experiment
Display templates for protocols
Choose a protocol template
Enter protocol
Create a new sample
Display fill in fields for a new sample
Input sample ID
Check if the sample is registered in Digital Sample Registry
[No]
[Yes]
Register the new sample
Retrieve information about the sample from Digital Sample Registry
Conduct the experimet
Edit experiment data
Send samples for analysis
Get the raw data of results
Upload the results
Update status of experiment accordingly
Process the results
Finish experiment
[if successful]
[if not successful]
[Else]
The experiment is audited by QA manager


Mark as "Complete"
Mark as "Paused"
Mark as "Failed"
Create a report