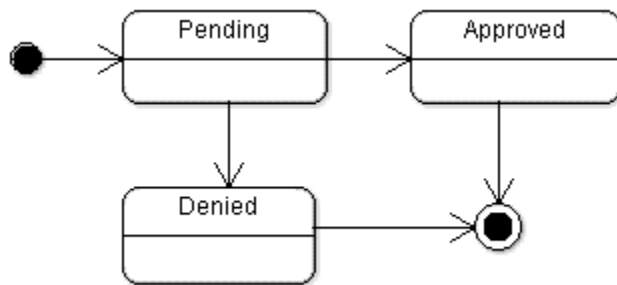# Expense Reimbursement System

Executive Summary

The Expense Reimbursement System (ERS) will manage the process of reimbursing employees for expenses incurred while on company time. All employees in the company can login and submit requests for reimbursement and view their past tickets and pending requests. Finance managers can log in and view all reimbursement requests and past history for all employees in the company. Finance managers are authorized to approve and deny requests for expense reimbursement.
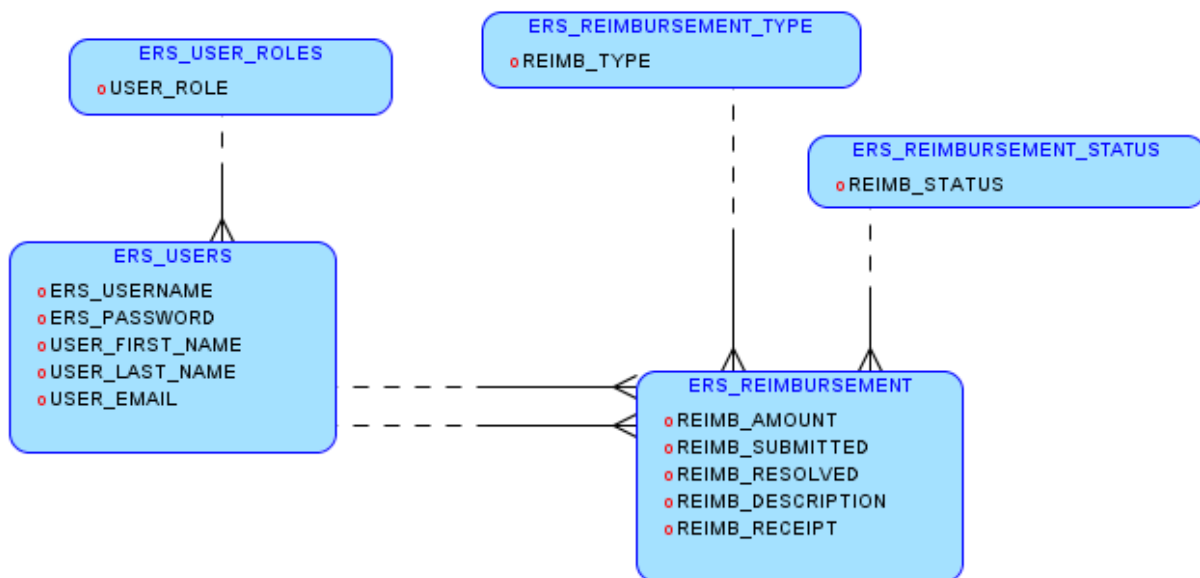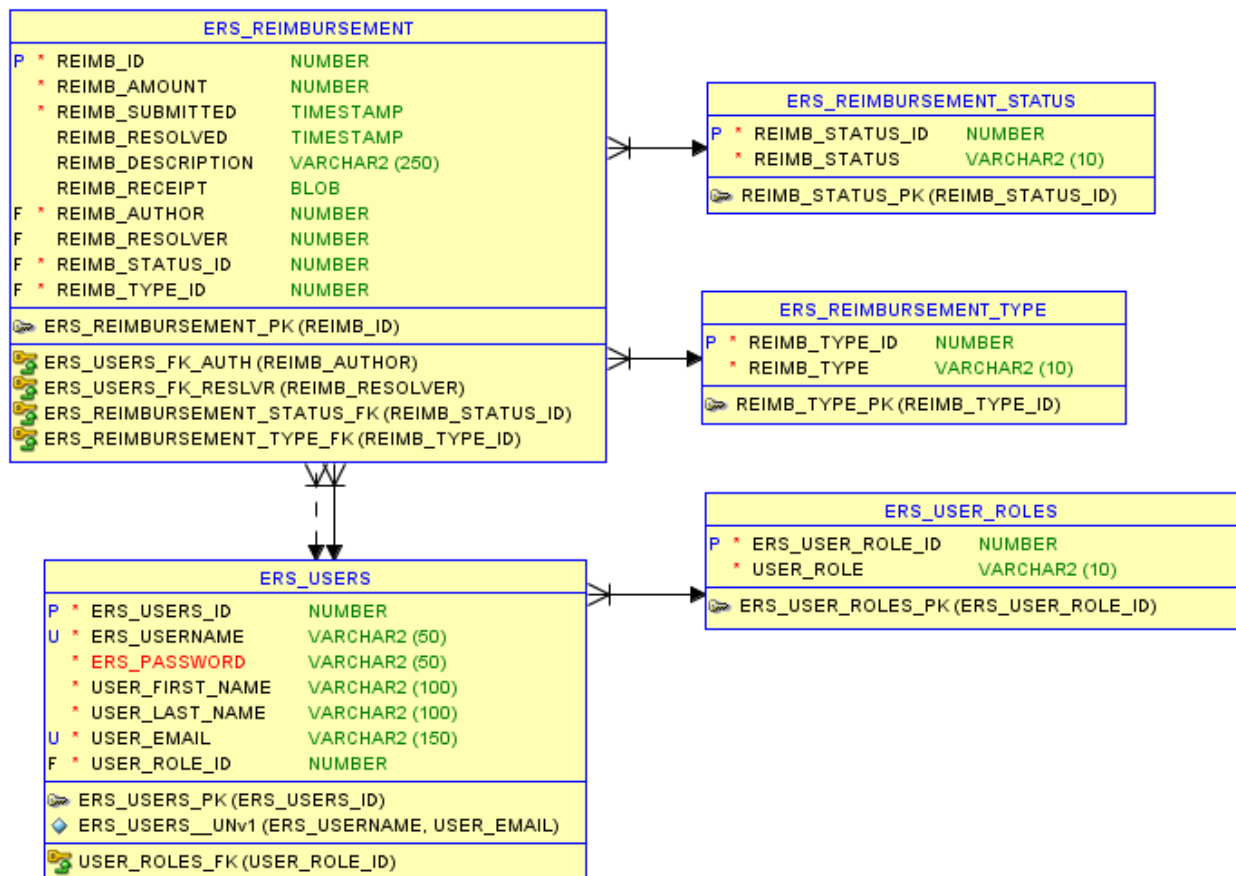
State-chart Diagram (Reimbursement Statuses)

Reimbursement Types

Employees must select the type of reimbursement as: LODGING, TRAVEL, FOOD, or OTHER(you can get creative here).
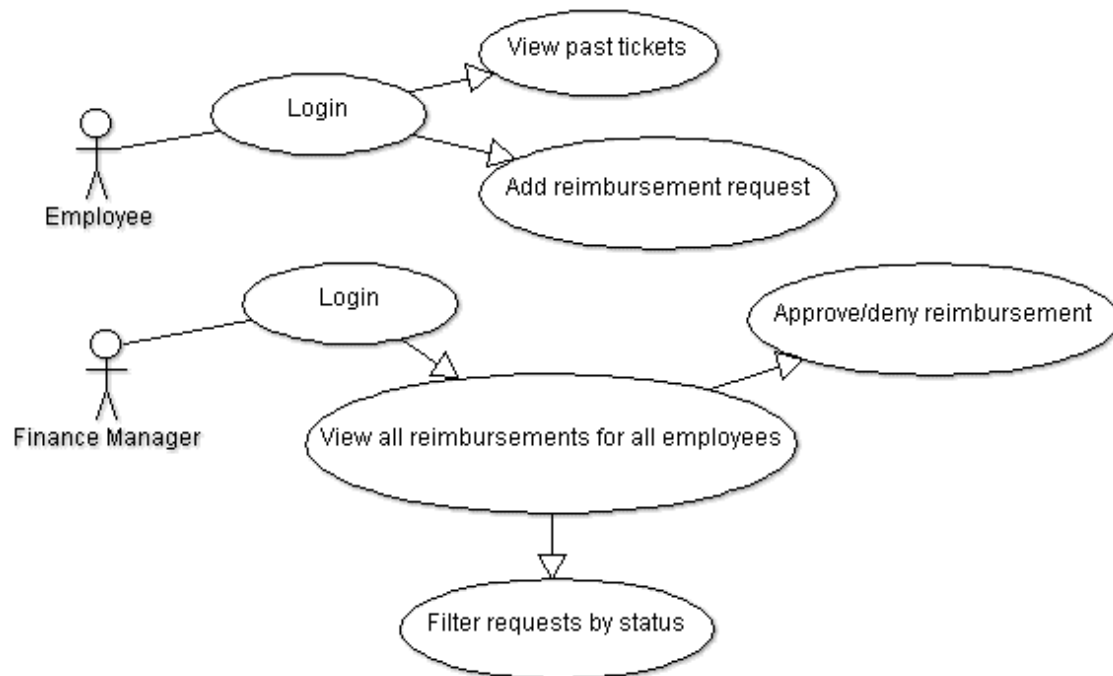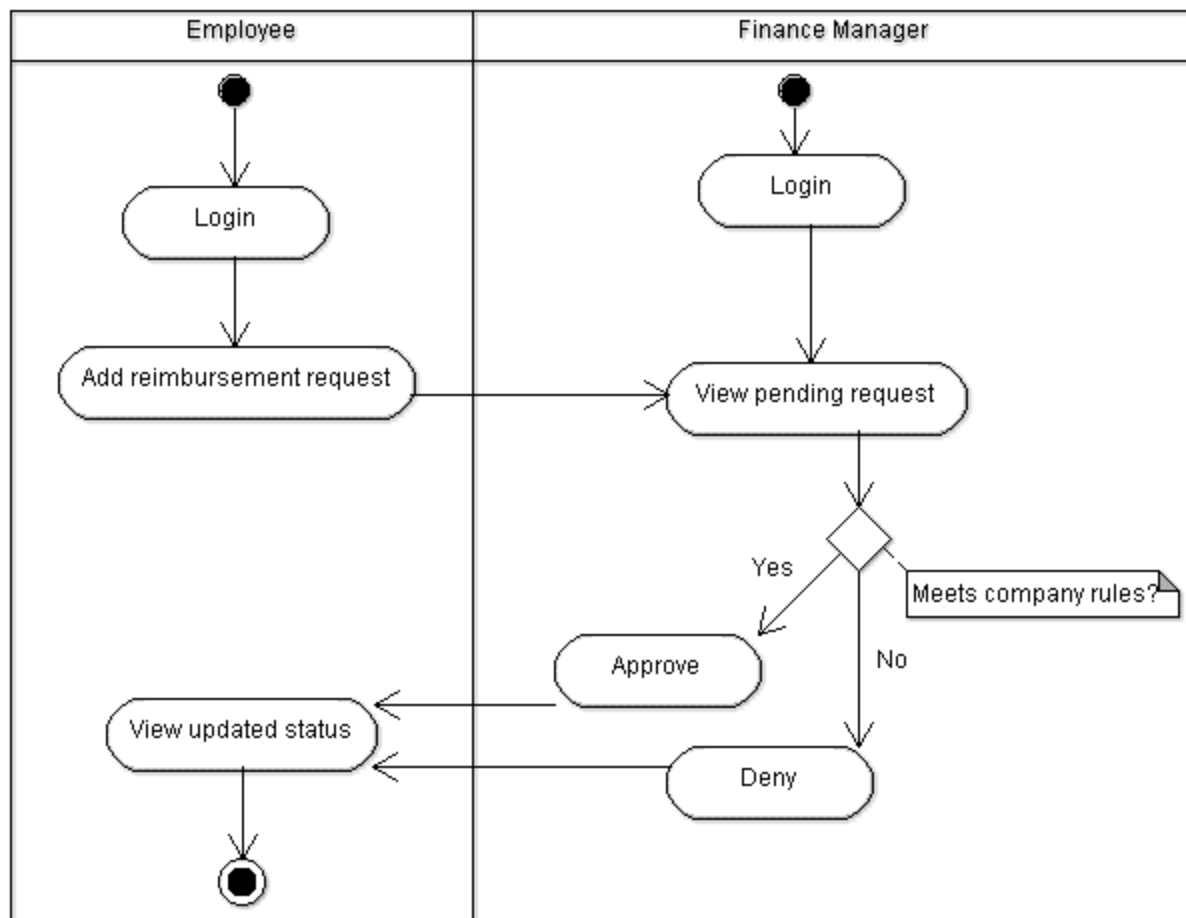
Logical Model

Physical Model

ERS_REIMBURSEMENT

P	*	REIMB_ID	NUMBER
	*	REIMB_AMOUNT	NUMBER
	*	REIMB_SUBMITTED	TIMESTAMP
		REIMB_RESOLVED	TIMESTAMP
		REIMB_DESCRIPTION	VARCHAR2 (250)
		REIMB_RECEIPT	BLOB
F	*	REIMB_AUTHOR	NUMBER
F		REIMB_RESOLVER	NUMBER
F	*	REIMB_STATUS_ID	NUMBER
F	*	REIMB_TYPE_ID	NUMBER

ERS_REIMBURSEMENT_PK (REIMB_ID)

ERS_USERS_FK_AUTH (REIMB_AUTHOR)
ERS_USERS_FK_RESLVR (REIMB_RESOLVER)
ERS_REIMBURSEMENT_STATUS_FK (REIMB_STATUS_ID)
ERS_REIMBURSEMENT_TYPE_FK (REIMB_TYPE_ID)

ERS_REIMBURSEMENT_STATUS

P	*	REIMB_STATUS_ID	NUMBER
	*	REIMB_STATUS	VARCHAR2 (10)

REIMB_STATUS_PK (REIMB_STATUS_ID)

ERS_REIMBURSEMENT_TYPE

P	*	REIMB_TYPE_ID	NUMBER
	*	REIMB_TYPE	VARCHAR2 (10)

REIMB_TYPE_PK (REIMB_TYPE_ID)

ERS_USER_ROLES

P	*	ERS_USER_ROLE_ID	NUMBER
	*	USER_ROLE	VARCHAR2 (10)

ERS_USER_ROLES_PK (ERS_USER_ROLE_ID)

ERS_USERS

P	*	ERS_USERS_ID	NUMBER
U	*	ERS_USERNAME	VARCHAR2 (50)
	*	ERS_PASSWORD	VARCHAR2 (50)
	*	USER_FIRST_NAME	VARCHAR2 (100)
	*	USER_LAST_NAME	VARCHAR2 (100)
U	*	USER_EMAIL	VARCHAR2 (150)
F	*	USER_ROLE_ID	NUMBER

ERS_USERS_PK (ERS_USERS_ID)
ERS_USERS__UNv1 (ERS_USERNAME, USER_EMAIL)

USER_ROLES_FK (USER_ROLE_ID)

Use Case Diagram

Activity Diagram

Technical Requirements

- The application shall employ the DAO design pattern, and properly separate your code into the appropriate layers
- The back-end system shall use **JDBC** to connect to a database.
    - Use at least one of each of our three statements – Statement, PreparedStatement, and CallableStatement
- The application shall deploy onto Tomcat Server
- The middle tier shall use Servlet technology for dynamic Web application development
- The front-end view can use JavaScript/jQuery with AJAX to make a single page application that uses AJAX to call server-side components
- Use Log4J
- Passwords shall be encrypted(optional) in Java and securely stored in the database
- Users can upload a document or image of their receipt when submitting reimbursements(optional)
- The application will send an email to employees letting them know that they have been registered as a new user, giving them their temporary password(optional)

Important/Related Dates

- 6/27: Project 1 Assignment
- 7/1: *Database created, look-up tables populated, sample users added to table, able to establish connection from Java to DB and create new reimbursements with JDBC
- 7/2: *DAO methods – update reimbursement, get reimbursements by user, get user by username, etc
- 7/5: *Front end – Login page, should be able to log a user in and go to home page for emp or manager
- 7/8: * Employee functionality – can log in, view reimbursements, submit reimbursement
- 7/10: * Manager functionality – can log in, view reimbursements by employee, view all, and resolve reimbursements
- 7/11: * bug fixes, rest, clean up, more styling
- 7/12: Presentations