# Case Study – Finance Company

## 1. Business Scenario

Ganesh Finance Limited Company provides loans for an individual for their needs. It offers a wide variety of loans like auto finance, house loan, gold loan, loan against property etc.
Ganesh Finance has branches all over the country in all major cities. Ganesh Finance advertises, typically through newspapers and TV shows.
Ganesh Finance offers maximum loans for less interest, relatively little higher than other banks. Customers produce required documents to avail a specific loan.
The loan amount will be credited to their personal bank account once the loan is approved. Repayment of loan will be through ECS, postdated cheques or by directly paying cash in the branch. Upon request, the bill collectors from the company also visit to customer place and collect the due amount.
At present, the Loan processing is done manually with its employees. Recently there were lots of problems regarding the document processing and verification and customers were unhappy because of a long waiting time for getting the loan even though the customer had submitted all the required documents.
Ganesh Finance is also planning to reduce the labor costs by automating to Loan application process, where one are two employees can do document processing and approval.
This is what happened yesterday.
"Mr. Dinesh submitted the required documents for the car loan. Mr. Kiran who processes and manages all documents for the customer had misplaced some of the documents, and requested Mr. Dinesh resubmits the documents. Similar reasons for Mr. Raju who submitted the documents for Home loan but due to one missing document his loan was not approved by the manager.
These were the major reasons that the customer did not get the loan and the loan request was processed by another Finance company.
Since the customers were moving to other finance companies Ganesh Finance is losing their business. With automation, they are planning to get back into business.

## 2. Problem statement:

### 2.1 Points to focus

The Application should help automate the following

- Loan Application Process from multiple client machines.
- Online Loan Application process for customers.
- Uploading required documents to the Database
- Loan Approval by manager.

### 2. 2 Entities

The database design can focus on following three entities at first cycle.

**Customer**

Holds customer records like ID (unique), name, gender and contact details. It can be used in Storing application records.

**Loan**

Contains details about the loan types like loan id, loan type.

**Loan Application**

Has a unique application number and also stores loan details like customer id, loan type, loan amount.

**Documents**
Has an application number and also stores documents in the data base.

## 2.3 Business Process in the application:

1. The branch clerk wants to add new customer and his loan application details.

2. The clerk also wants to add a new loan application for existing customer.

3. The clerk uploads all the scanned documents(only in .jpg image format) for that loan application and mark for approval from the manager

4. The Manager needs to access the uploaded application and all related documents, verify and update the application as "approved" or "not approved".

5. The Manager wants see list of approved or not approved waiting for approval applications separately.

6. The clerk also want to get list of customer details, application details, loan wise application details, date wise application details etc..

7. Customer can apply loan directly using online web application.

8. Customer can also upload required documents in image [jpg] format.

9. Manager access online application and verify and approve the loan.

10. Manager wants to send a mail notification to the customer whose applications are approved for loan.

# Learning Objectives

At the end of the case study the student should have worked and created a project covering following topics

Java Platform Overview

Java Syntax and Class Review

Encapsulation and Polymorphism

Java Class Design

Advanced Class Design

Inheritance with Java Interfaces

Generics and Collections

String processing

Exceptions and Assertions

I/O Fundamentals

File I/O with NIO 2

Database Application with JDBC

## Advance Java Learning Objective

At the end of the case study the student should have worked and created a project covering following topics Fundamentals of Java EE Technology and REST API

Designing Java EE Applications

Developing and Designing a REST API

Implementing the concepts and principles of REST and HTTP applications

Implementing content negotiation and the importance of Accept and Content-Type headers, and how they impact method dispatching

Exchanging of business data by communicating in HTTP entities in both XML and JSON format

Securing RESTful resources

## JavaScript UI development Learning Objective

At the end of the case study the student should have worked and created a project covering following topics of JavaScript based UI development

Creating interactive HTML5 page by using JavaScript.

Creating HTML5 forms by using different input types, and validating user input by using HTML5 attributes and JavaScript code.

Managing Ajax requests by sending and receiving data to and from a remote data source by using XMLHTTPRequest object

Manipulating Document Object Model (DOM) elements.

Styling of HTML5 pages by using CSS3.