Case Study – Finance Company

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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.

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The loan amount will be credited to their personal bank account once the loan is approved. Refund of loan will be through ECS, post dated 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.

1. 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.

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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:**

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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.

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1. Manager access online application and verify and approve the loan.
2. Manager wants to send a mail notification to the customer whose applications are approved for loan.
3. Tools to be used for development:

Tools to be used:

* Oracle Database 10g
* JDK 1.7
* Eclipse
* Apache Tomcat
* Angular 4

1. Activities to be done by the students

5.1 Java

Create required tables in the database

Add sample data to the tables

Implement one to many relationships with customer and loan application, loan and loan application, loan application and document tables.

Build desktop user interface for clerk to add new customer, loan application, document upload.

Build desktop user interface for manager to view and approve the uploaded documents for loan application and send mail notification for customers.

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Build reports as per business process.

Create users and roles to implement security. Only specified role should able to perform the business process.

5.2 Advance Java

Create web application using Java Server Faces.

Create new user, login page.

Create Apply Online page along with required document upload page

Build required business components using EJB Session Bean.

Bind business components with desktop and web user interfaces.

Build message driven beans to send email notifications to customer.

Configure Security using JAAS.

1. Guidelines to the instructors:

**Step 1**

Help the participants to create a schema in the database.

Creation of Tables

Feed Data ( Encourage them to insert some realistic data)

Create other objects

Views

Sequences

Constraints

**Step 2**

Let the team build desk top application for clerk and manager.

Team need to build all required business components and test the components by writing test clients,

Note Down comments/ideas by other team and facilitator

Keeping these ideas as base, team has to list down the queries that can facilitate the loan application process and approval.

Write queries to solve all above problems.

After building business components team need to build user interface.

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**Step 3** – Validate

All learning objectives defined above for the Java should have been met. If not revisit and ensure the learning objectives are met for the Java.

**Step 4**

After successful completion of desktop application the team should build web application.

They should use existing business components to build pages.

**Step 5** – Validate

All learning objectives defined above for the Advance Java should have been met. If not revisit and ensure the learning objectives are met for the Advance Java.

**Step 6** – Pre Assessment and Post Assessment during the workshop

The trainer has to ensure pre assessment exam must be completed on the first day of the workshop. On the 5th and 10th day post assessment exam without fail for Java and Adv Java.

1. Reference Material:

https://docs.oracle.com/javase/tutorial/

http://docs.oracle.com/javaee/6/tutorial/doc/

http://www.javaworld.com/blogs

http://www.oracle.com/technetwork/java/blogs-141806.html

http://blog.bielu.com/