

# Swift Loan Processing

## Electronic Loan Application And Processing

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December 3<sup>rd</sup>, 2012

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# What is Swift Loan Processing?

- Semi automated loan processing
- Online process
- Quicker processing
- Background processing

# Who is this for?

- Fast paced society
- People who prefer to do banking online

# Functional Requirements

- Allow users to register accounts
- Store redundant basic information
- Require secure authentication of users
- Allow users to apply for loans
- First version must allow users to apply for collateralize personal loans and collateralize consumer loans
- Allow users to view existing or previous applications
- Allow users to cancel applications within the first 24 hours

# Functional Requirements

- All user interactions will take place in a webpage.
- The user will input data through webpage
- During a single session, the web page will keep forms populated
- To be able to do any interaction, the user must be logged in.
- All completed documents will be provided in the form of PDF documents and will be available via downloads.

# Software Architecture

- Django Framework
- MySQL Database
- Two separate applications
- 4-tier Architecture
- TLS/SSL Encryption for end-user security

# Software Architecture





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- View - what is seen by customer
- Web Application - Prepares forms, parses input, renders templates
- REST API - Communicates with application server
- Data Processor - Processes applications, retrieves information
- Database - Stores local copy of customer information

# Network Topology

- Servers
- Routers
- Misc.

# Network Topology

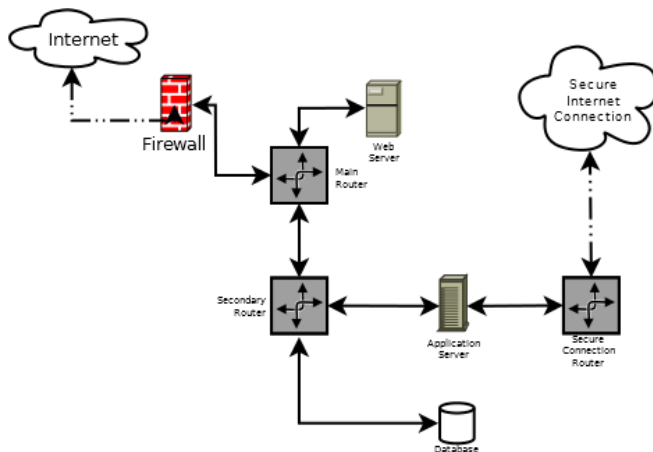
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  - Application Server
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# Network Topology

- Servers
  - Web Server
  - Application Server
  - Database
- Routers
  - Main Router
  - Secondary Router
  - Secure Connection Router
- Misc.



# Network Topology Cont.



# Software Problems Addressed

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- Modular

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- Scaleable
  - Separate database from application
  - Separate application logic from parsing

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- Modular
- Scaleable
  - Separate database from application
  - Separate application logic from parsing
- Maintainable
  - MVC Architecture
  - HTML, CSS, JS are separate from the logic

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- Separate customer data from web server
- Use REST as middleware
  - Well defined vocabulary
  - Easy to implement
  - Already-existing mechanisms for routing, authentication

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- Security
  - Django handles sanitization
- Expandable
  - Additional modules can be created as-needed
  - Separate model, view, controller
  - Different servers for processing and responding to users
    - Allows the server to process multiple applications

# Hardware Problems Addressed

- Security
- Scalability

# Hardware Problems Addressed

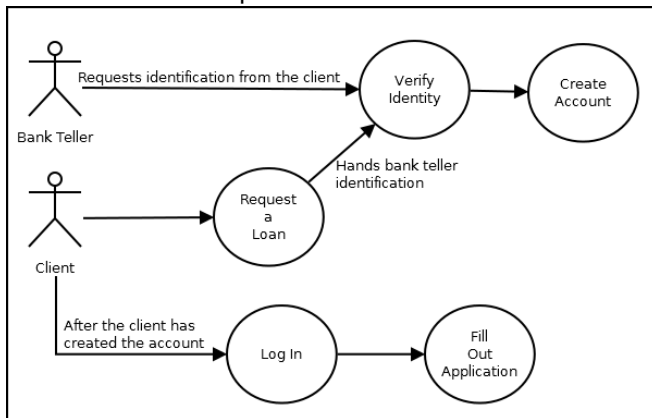
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  - iptables
  - Seperate Internet connections
  - Seperation of execution
- Scalability

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# Sample Implementation

## Example Use Case: Loan Request as a New Borrower



# Questions?