# Applying for a Loan user story

# XP Process

1. Planning (do only planning necessary for now)
2. Iteration planning (do iteration planning necessary for now)
3. Analysis
4. Do simple Design (architecture and detailed design) – necessary for now)
5. Create test
6. Coding (implementation)
7. Testing
8. Increment integration

# Completed increments

- Opening account
- Withdraw
- Deposit
- Check balance
- Loan application next story to be implemented with highest priority

# XP PROCESS

1. Customer develops Acceptance focusing on overall system and features visible to the customer. The acceptance tests are derived from loan user stories implemented as part of increment
2. Deliver system, user carries out acceptance testing and any changes are made for any deviations until system meets the tests

# XP PROCESS

## Iteration Planning–

- Plan on how story will be analyzed, designed, coded and tested

## Analysis

1. Customer writes a user story for applying for a loan

# XP Planning

Planning and analysis– consists of:

- The team assess the loan application story for costing according to time required. We assume it requires 2 weeks. The duration of an iteration selected earlier so doesn't need to be split
- Customers and developers work together to decide which user stories to include in the next software increment – lets assume team has selected loan payment as the next story

## XP Planning – loan iteration planning

Time 2 weeks (pairs of programmers carry out tasks should be assigned, create a schedule). If they software engineer/programmers who are free they can start working on next user story.

1. Analysis – loan user story 1 day
2. Design -1/2 day
3. Detailed design 1 day
4. Tables creation 1/2 day
5. Writing tests
6. Programming implementing increment- 5 days-
7. Testing increment 1 day
8. Integration testing – 1/2 day
9. Acceptance testing ½ day

Plan enough for now as more information become available the plans will be refined

# XP PROCESS

1. Listen to bank stakeholders about process of taking loans
2. Identify user stories and prepare a rough plan of how stories will be implemented – this was done earlier
   i. Stories with highest priority implemented first
   ii. Stories with highest risks implemented first – spike solution may be developed

# XP Analysis

Loan application user story written by customer

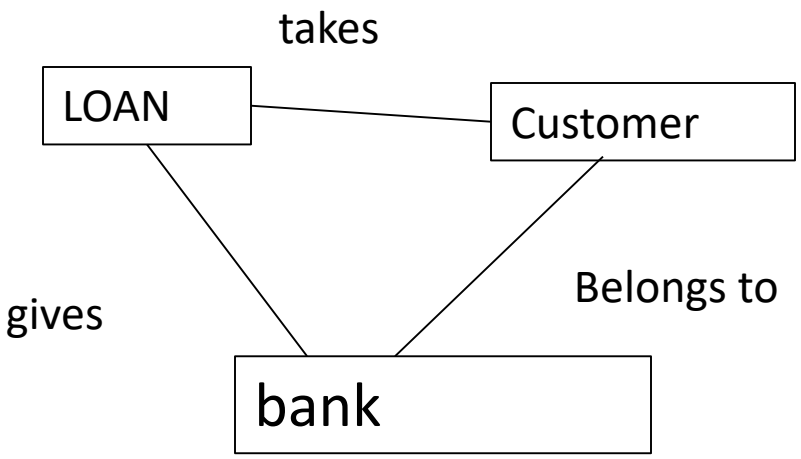
1. Fill loan application form
2. Submit application form
3. Check if applicant is bank customer if not reject and ask applicant to apply for customer
4. If member check if member qualifies – if not reject and inform member of reasons
5. Check if money available – if money not available inform member to wait
6. Get loan approved –Inform user of loan application acceptance or rejection

# XP design

keep  design simple principle –

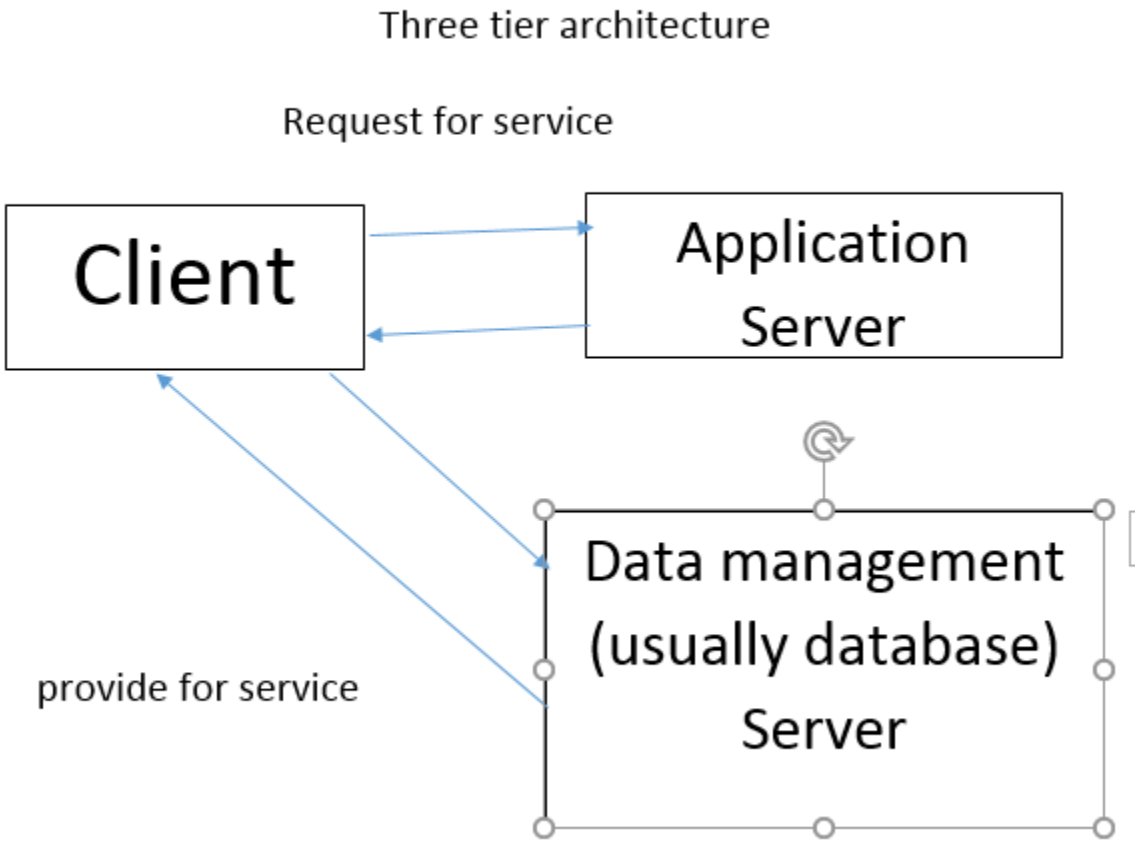
- Refactor design if its complicated necessary

# XP architecture class diagram



# XP architecture design – develop during previous increments

**Refactor the architecture if necessary to accommodate the loans, may be change architecture to 4 tier architecture to have a loans data management server.**

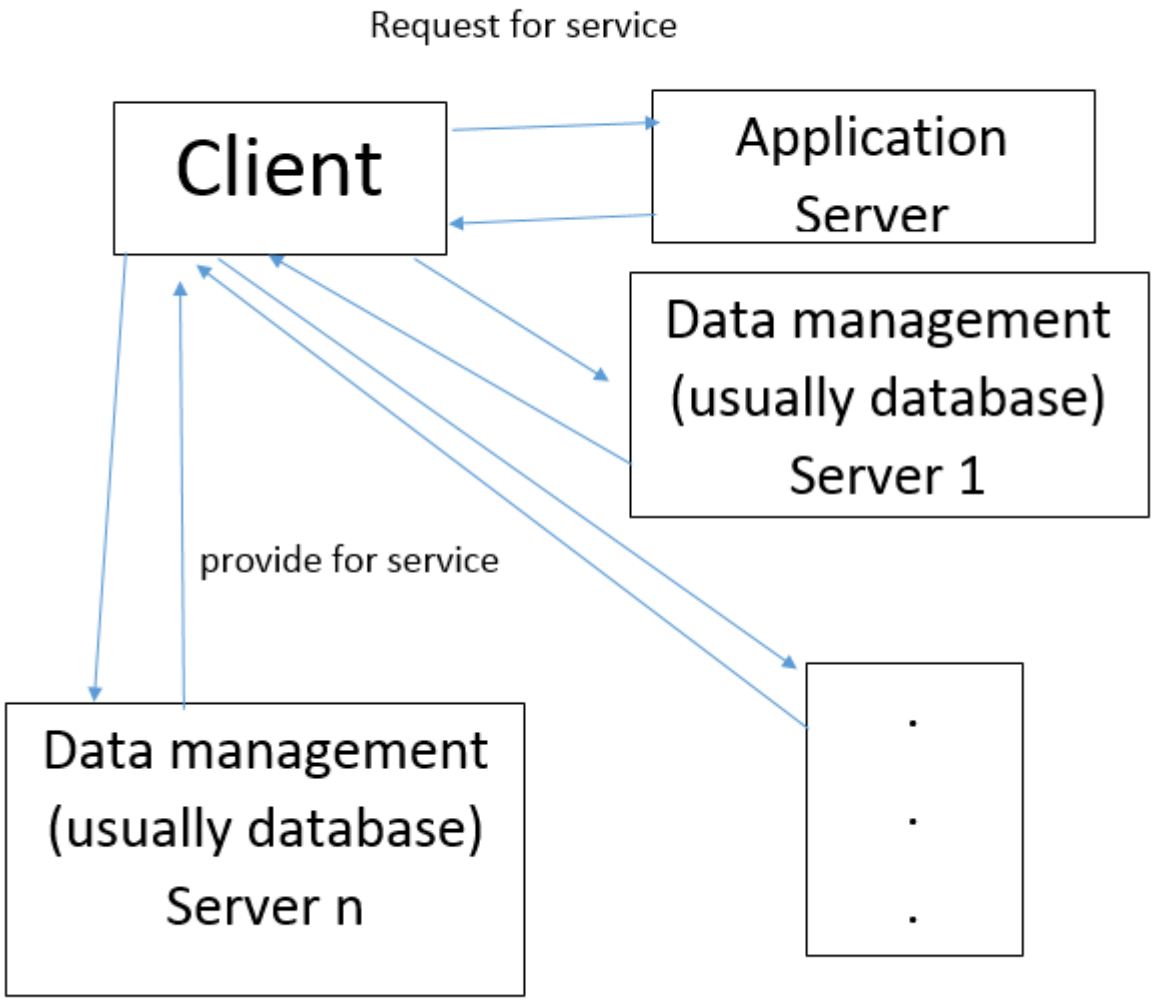


# XP architecture design

- Every program implemented from user story will consist of:

1. User interface that user will interact with
2. Business logic the processing that will be done
3. Data storage logic – deals with storage of data
4. Data access logic – deals with accesing the data

# N tier architecture



# XP architecture Design

## Allocated the program component to servers and clients

- 2 tier only one server
- 3 tiers two servers – one for business logic and one for data management logic
- N-tier if you will have more than two server

# XP Detail Design

Determine operations/attributes and methods/operations for class diagram

Operations will be implemented as tables in data management server

# XP detail design

1. Fields for loan application
2. Account name, account number, IDNO/Passport no. employer, email, Telephone etc.
3. Before designing interface write tests for testing user interface

Testing Kenyan IDNO – only characters, 7 Characters etc.

# XP coding

- Coding – consists of:

1. Write tests for user interface
2. Write tests for Application logic
3. Write unit tests for database management logic

- Allocate pair of programmers to develop user interface.

## XP coding

1. Design data structures and algorithms for class operations methods
2. Assign algorithms and data structures design to pairs of programmers to code
    a. Run test developed earlier on coded modules
3. Assign database table design to pairs of programmers
    a. run database tests on completed tables
4. Develop tests for increment

# XP increment testing

1. Test increment
2. Develop integration tests
3. Carry out integration testing
4. Carry out acceptance testing

Continue on next user story increments.