Insurance Management System

Prepared By: Sulav Malla

Prepared For: Takeo

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1) Executive Summary

The Insurance Management System is a streamlined software solution designed to manage insurance policies efficiently. It provides an intuitive platform for both administrators to handle policy details, categories, and subcategories and for customers to view and apply to policies effectively.

2) Introduction

2.1 - Background

With increasing applications for insurance, insurance systems need an efficient structure that allows providers and customers to handle policies.

2.2 - Scope

The project covers:

- Policy Management for the insurance providers
- User Friendly Interface to navigate the policies for all users
- User Applications for new policies along with the ability to view their status

2.3 Limitations

- Limited to general management of policies(add, update, delete)
- No direct payment integration (future scope)
- No proper database for customer and policy data (future scope)

3) Project Objectives

- Develope a properly structured insurance management system
- Provide an easy-to-use UI for users
- Streamline policy management for insurance providers to create and manage policies.
- Enhance customer experience to track their policies and apply to new policies

4) System Overview

The System has two primary user roles:

➔ Admin: Manages insurance categories, subcategories and policies and handles approvals

➔ Customers: Applies for policies (awaiting approval), views policies

5) Modules and Functionalities

5.1 - Admin Features

- Can view/edit/add/delete insurance categories
- Can view/edit/add/delete insurance subcategories
- Can view/edit/add/delete insurance policies
- Can approve/reject pending policy approvals for all users

5.2 - Customer Features

- Can view insurance categories
- Can view subcategories
- Can view insurance policies
- Can view personal list of policies (active and pending)
- Can apply for available policies

6) Technology Stack

- Backend: Core Java
- Version Control: github

7) Implementation Details

The development process follows Agile methodology with iterative releases.

- Phase 1: Requirement gathering, and basic design
- Phase 2: Iterative development
- Phase 3: Review feature and continue improvements

8) Security Measures

- User authentication: simple authentication to make sure they exist
- Invalid policies: doesn’t allow applications to invalid categories

9) Testing and Quality Assurance

Testing Done:

- User testing done using invalid inputs
- User testing done making sure valid inputs work

10) Challenges and Solutions

Some challenges faced:

- Invalid deletion of policies from list: solved using iterative and removeIf methods
- Inconsistent list (data): solved using a static list across all, so it can still be up to date when modified for all users

11) Future Scope and Enhancements

- ➔ Payment Gateway
- ➔ Proper Database for user and policy data

12) Conclusion

The Insurance Management System successfully meets the object of streamlining the process of managing and viewing the various insurance policies available. The system is designed with user experience and provider control in mind with future enhancements planned.

13) Appendix

Initial Data made using static with no database

```
// just random initial data
static {
    Category category1 = new Category("Health Insurance");
    Category category2 = new Category("Life Insurance");

    SubCategory subCategory1 = new SubCategory("Individual Health");
    SubCategory subCategory2 = new SubCategory("Family Health");
    SubCategory subCategory3 = new SubCategory("Whole Life");
    SubCategory subCategory4 = new SubCategory("Term Life");

    subCategories.add(subCategory1);
    subCategories.add(subCategory2);
    subCategories.add(subCategory3);
    subCategories.add(subCategory4);

    Policy policy1 = new Policy("Basic Health Plan", category1, subCategory1, "A basic health insurance plan",
            500.00, 10000.00, 1, "Open");
    Policy policy2 = new Policy("Premium Health Plan", category1, subCategory2,
            "A premium family health insurance plan", 1000.00, 30000.00, 2, "Open");
    Policy policy3 = new Policy("Whole Life Plan", category2, subCategory3, "A whole life insurance plan", 1200.00,
            50000.00, 20, "Open");
    Policy policy4 = new Policy("Term Life Plan", category2, subCategory4, "A term life insurance plan", 800.00,
            25000.00, 10, "Open");

    subCategory1.addPolicy(policy1);
    subCategory2.addPolicy(policy2);
    subCategory3.addPolicy(policy3);
    subCategory4.addPolicy(policy4);

    category1.addSubCategory(subCategory1);
    category1.addSubCategory(subCategory2);
    category2.addSubCategory(subCategory3);
    category2.addSubCategory(subCategory4);

    categories.add(category1);
    categories.add(category2);

    polList.add(policy1);
    polList.add(policy2);
    polList.add(policy3);
    polList.add(policy4);
}
```