# \*\*Introduction

This document extends the application requirements supplied in the Version 1.0 document. This document provides clarification of some requirements specified in the previous document and also specifies the requirements for some additional functionality that has been negotiated and accepted.

# Refinement of previous specifications

* Every client has one active policy contract at any time. Other policies may exist for a client, but they would be for previous or future time periods. A client will not have overlapping policies, i.e. any period where more than one policy applies.
* Every client is identified within the business by a unique client identifier. This identifier consists of one of the alphabetic characters G, H, J, K, or L; and eight numeric digits (exactly), i.e. these numbers must be left-padded with zeroes to have exactly eight digits.  
  **Examples:** H01002033, J30200191, K00430087.
* The medical conditions covered for a client, and specified as such in the client’s contract, are identified by the condition codes identified by the medical industry. The treatments for which the client is eligible under the policy are likewise identified by standard codes. Note that these codes may be hierarchically related, as well as relationally with regard to the treatments applicable to any condition.
* All interfaces that are used to capture the details of telephone calls should use buttons with icons for making/answering a call and for ending a call. (These should be similar to the green and red buttons on a cellular telephone, since the users will find the use of such buttons intuitively familiar.)
* Policies are identified by a unique policy identifier consisting of:
  + Four numeric digits representing the year the policy was issued.
  + An alphabetic character specifying the general contract type (any uppercase character from A to Z, with the exception of I or O).
  + An alphabetic character indicating the importance of the policyholder, i.e. the general service level to be afforded a client of this importance (A, B, C, or D).
  + Six numeric digits, left-padded with zeroes.

# New requirements

## Policy Maintenance

Specification of medical care levels and number of days of treatment covered for a condition must be specifiable using spin boxes in the user interface. Care levels are specified as three character alphabetic value; while the number of days would be specified as positive whole numbers.

## Medical Department

The Medical Officer needs to track all the *in-progress* treatments by the medical institutions performing the treatments, as well as all unassigned cases. This information must be presented as a tree structure that contains all the institutions (as well as a node for unassigned cases) as the highest level in the tree, with the related treatments arranged under each of these by status. This way it will be visible at a glance exactly what the state of medical service delivery for all treatment cases.

From Chat gpt:

To transform Ukupholisa Healthcare's process into an enterprise-level web application while maintaining its core functionalities, you can build an integrated healthcare insurance management system with additional features. Let's call it "HealthInsure Pro." Here's how you can extend the existing system:

**Core Features:**

1. **Policy Management:**
   * Allow policyholders and Ukupholisa staff to manage policies online.
   * Specify covered treatments and conditions within each policy.
2. **Claim Processing:**
   * Enable policyholders to submit claims online with relevant medical documentation.
   * Implement an automated approval system for claims based on policy terms.
3. **Call Center Integration:**
   * Establish a call center module within the web app for policyholders to inquire about claims and treatments.
   * Offer real-time status updates during phone calls.
4. **Recording and Archiving:**
   * Integrate call recording software to capture conversations between policyholders and call center agents.
   * Store call records securely for legal purposes, replacing paper claim forms.
5. **Automated Decision System:**
   * Implement an AI-powered decision system that can make instant claim decisions for straightforward cases based on policy terms and medical documentation.
6. **Exception Handling:**
   * Create an automated exception system for complex or disputed cases.
   * Automatically trigger the generation of electronic claim forms to be emailed to clients for completion.
7. **Data Analytics:**
   * Utilize data science to identify trends in claims, detect potential fraud, and optimize the approval process.
   * Generate reports for management to make informed decisions.
8. **Client Portal:**
   * Provide a self-service portal for policyholders to access their policies, submit claims, and track the status of claims.
9. **Secure Messaging:**
   * Implement HIPAA-compliant secure messaging for communication between policyholders and Ukupholisa staff.
10. **Compliance and Security:**
    * Ensure compliance with data protection regulations.
    * Implement robust security measures to protect sensitive healthcare data.

**Additional Features to Make it an Enterprise-Level Web Application:**

1. **Multi-User Roles:**
   * Create role-based access controls for administrators, call center agents, policyholders, and healthcare providers.
2. **Integration with Healthcare Providers:**
   * Allow healthcare providers, such as hospitals and clinics, to interact with the system for streamlined claims processing.
3. **Document Management:**
   * Centralize and digitize all documents, including medical records, policy documents, and claim records.
4. **Mobile Accessibility:**
   * Develop a mobile app version for policyholders to access their accounts and submit claims on the go.
5. **Audit Trail:**
   * Maintain a comprehensive audit trail to track all actions and changes within the system for transparency and compliance.
6. **Scalability:**
   * Design the system to handle increasing policyholder numbers and data volume as the company grows.
7. **AI Chatbots:**
   * Implement AI chatbots for handling common queries and providing policy information.

**Benefits:**

* **Enhanced Efficiency:** HealthInsure Pro reduces paperwork, streamlines claims processing, and delivers faster claim decisions.
* **Improved Customer Experience:** Real-time claim decisions during phone calls improve policyholders' satisfaction.
* **Data-Driven Insights:** Data analytics offer insights for better decision-making and fraud detection.
* **Legal Compliance:** The recorded calls serve as legal records, ensuring compliance with regulations.

By extending the existing system into HealthInsure Pro with these additional features, Ukupholisa Healthcare can not only gain a significant competitive edge but also provide a more efficient and user-friendly experience for policyholders and staff. This comprehensive solution can serve as an enterprise-level web application for managing healthcare insurance seamlessly.

**2. HealthInsure Pro: Healthcare Insurance Management with Workflow Automation**

**Concept:** HealthInsure Pro is an enterprise-level healthcare insurance web application designed to optimize insurance company operations with the integration of workflow automation.

**Enhanced Features:**

* **Workflow Automation:** Insurance company staff can create and manage workflows for various tasks, such as policy underwriting, claims processing, and customer support inquiries.
* **Task Templates:** Define templates for common insurance processes, allowing for quick and standardized task creation. For example, a template for processing medical claims can include predefined steps and criteria.
* **Task Routing:** Automatically route tasks to the appropriate department or team based on predefined rules and criteria. Ensure that claims are handled by claims processors, policy underwriting tasks go to underwriters, etc.
* **Task Prioritization:** Assign priorities to tasks based on urgency and impact. High-priority tasks can be escalated for immediate attention.
* **Dashboard Analytics:** Provide analytics and reporting dashboards for monitoring workflow efficiency, identifying bottlenecks, and optimizing processes over time.

**Benefits:**

* **Faster Claims Processing:** Workflow automation accelerates claims processing, reducing turnaround times and improving customer satisfaction.
* **Standardization:** Task templates ensure that processes are standardized, reducing errors and improving compliance.
* **Enhanced Customer Support:** Workflow systems help streamline customer support inquiries, ensuring timely responses and issue resolution.

Technologies to implemt

-Microservices

-Messages Queues

-AWS

-Use flowable ie business automation software