Rules Engine for Data Validation Checks

Vaibhav Krishnakumar Morgan Stanley

Manager: Ganesan Thangamuthu

Buddy: Ivaylo Varbanov

Morgan Stanley

- Global FinancialServices provider
- Clients include governments, institutions, high networth individuals
- ♦ Technology Division makes up 20% of the workforce
- Corporate Funding Technology

Morgan Stanley

Treasury Technology

BALANCE SHEET

TRADING AND RISK DATA

REFERENCE DATA **STRESS TESTS**

LIQUIDITY METRICS

FUNDING PLANNING

RISK RATIOS

REPORTING

USER INTERFACE

Context

LIQUIDITY HUB

MAIN DATA FEEDS MAIN FEED
DATA LOAD

DATA
VALIDATION
CHECKS

ERROR CORRECTION

DATA ENRICHMENT

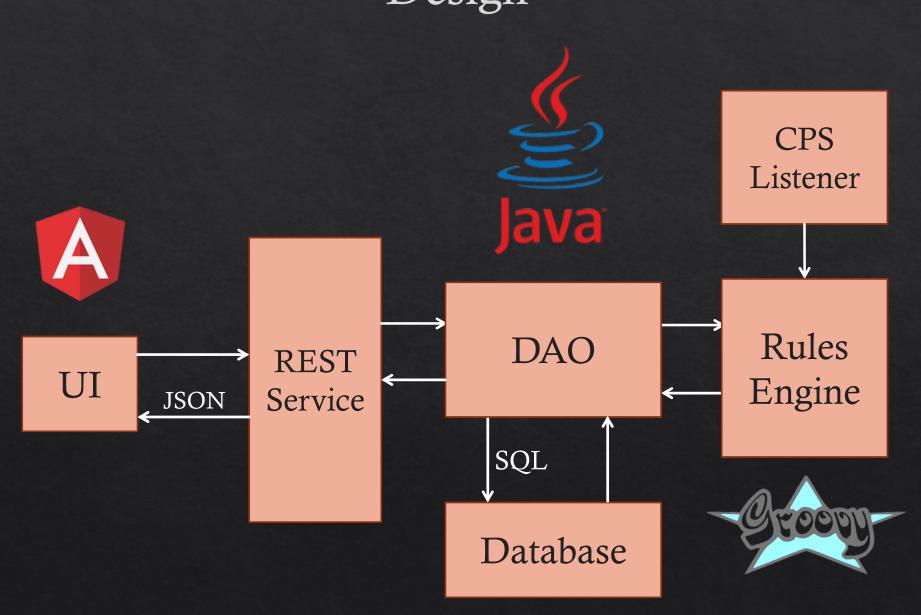
DERIVED ATTRIBUTE PROCESSOR REPORT DATA LOAD

REFERENCE DATA FEEDS

Project Overview

- Implement data validation checks for Reference Data Feeds
- Display results of checks on a web dashboard
- ♦ Follow a rule-based approach
- ♦ Integrate with existing feed processing pipeline
- ♦ Green-field project no existing codebase, set up and configuration
- Morgan Stanley Development Environment
- ♦ User communication
- ♦ Testing Dev and QA environments

Design



Reflection

Positives

Educational Experience

- Workflow
- Scalability
- Financial Background

Social Aspects

Negatives

Project Planning: Timeline

- Design / Implementation split
- Full-stack Development

DoC Context

♦ Modules

- ♦ Java Programming Alastair Donaldson
- ♦ Software Engineering Design Robert Chatley

Options

- ♦ Databases Years 1 and 2
- ♦ WebApp Project Year 2
- Other topics
 - ♦ Scalability
 - ♦ Financial Context
- ♦ 3rd Year Group Project



Thank you!

Questions?