Business Requirements Document (BRD)

Project/Initiative

December 2022

Version 1.0

Presented by:

G4-9 Data Analysts Associates (RMG Mortgage Group)

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Project Details

|  |  |
| --- | --- |
| **Project Name** | ***G4-9 Data Analysts Associates*** |
| **Project Type** | ***DATA Analysis*** |
| **Project Start Date** | ***11/19/2022*** |
| **Project End Date** | ***12/10/2022*** |
| **Project Sponsor** | ***RMG*** |
| **Primary Driver** |  |
| **Secondary Driver** |  |
| **Division** |  |
| **Project Manager/Dept** | ***Board Members*** |

Document Resources

| **Name** | **Business Unit** | **Role** |
| --- | --- | --- |
| Project Manager |  |  |
| Data Analyst |  |  |
| Data Engineer |  |  |
|  |  |  |
|  |  |  |

## **VERSION AND APPROVALS**

|  |  |
| --- | --- |
| **VERSION HISTORY** | |
| **VERSION** | **DATE** | **REVISED BY** | **REASON FOR CHANGE** |
| **1.0** | **11/22/2022** | **Richard Wanjue** | **Formatting** |
| **1.1** | **11/30/1022** | **Ethel Rusere** | **Review** |
| **1.2** | **12/02/2022** | **Caren Bartuin** | **Presentation** |
|  |  |  |  |
|  |  |  |  |

# Executive Summary

RMG is seeking to analyze its past data on 1003 applications so that it can maintain and improve its reputation as an outstanding mortgage lender by serving the lending needs of individual homebuyers, real estate professionals and builders throughout their lending network. The company aims to improve its services in the regions where it operates so that it can maximize its potential and be able to compete with other market players.

We aim to use the ELT process by extracting the data from the 1003 application forms, loading the data into a target data platform, and finally transforming it for analytics purposes. Below diagram illustrates the Business data flow process.

Diagram

Description automatically generated

This document details the project scope, desired goals and objectives, needs, requirements, stakeholders, SWOT analysis, Limitations, Schedule, Budget, and Financial Impact.

OLE DB source; Do we specify the source of application i .e Online, email/fax and Zillow (database SQL, Excel File and CSV file)

# Project Scope

The objective of this project is to provide RMG Mortgage Group with a consolidated mortgage lending system that encompasses the overall capabilities, interest, and competitiveness of collecting and processing mortgage loan applications. Our goal is to improve the quality of service, provide intuitive and advanced mortgage processing system.

The scope of this project is to allow RMG Mortgage Group to be able to collect, verify, consolidate, and process all loan applications from the different channels employed. Processed and verified loan applications will be stored in a SQL database and further visualized to clearly identify trends based on various criteria including and not limited to age, demographics, gender, loan purpose, and property usage.

**PROJECT SCOPE STATEMENT**

|  |  |  |
| --- | --- | --- |
| **Project Name:** | | Revolution Mortgage Group (RMG) Lender Project |
| **Prepared by:** | | Bi Final Project Group 4 |
| **Date (MM/DD/YYY):** | | 11/01/2022 |
| **Version** | **Date**  **(MM/DD/YY)** | **Comments** | |
| 1 | 11/10/2022 | Initial draft | |
| 2 | 11/15/2022 | Revision to update executive summary, project description and project milestones. | |
| 3 | 11/21/2022 | Updates based on team feedback, to exec summary, business objectives,  deliverables and communication management sections | |
| 4 | 11/26/2022 | Updates to project deliverables section – added deployment section and  additional deliverable to testing. | |
| 5 | 11/30/2022 | Added application payment (in/out) | |
|  |  |  | |

**Scope of Work**

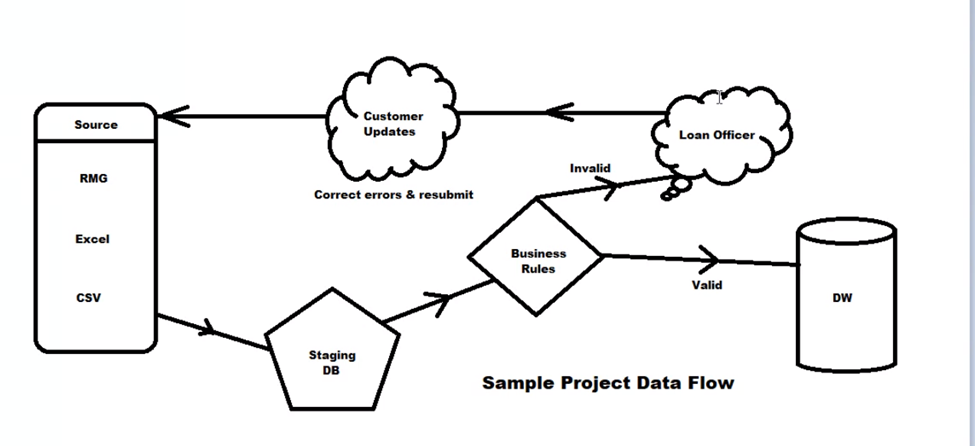
RMG is a lending group, and our mission is to serve all our customers in New York, Massachusetts, North Carolina, Texas and Florida with honesty, integrity, and competence. Our goal is to provide home loans to our clients while providing them with the lowest interest rates and closing costs possible. To help our borrowers’ overcome roadblocks that can arise while securing a loan

Our vision is to be a leader in our industry by being the dependable financing source for our clients and referral partners, becoming the choice for all their mortgage financing needs. The database will consist of 500 Records, and we are going to service our customers who are in New York, Massachusetts, North Carolina, Texas, and Florida.

Our core values are Integrity, Quality, Compassion, Reliability, Credibility, Accountability, Accessibility

# Desired Goals and Project Objectives

* We will analyze the Company data from the three application channels i.e., Online, Email/Excel file and Zillow by extracting, loading, and transforming the data in SQL. This will help us get the necessary information for visualizing the data.
* We will combine the data sources into one database in our SQL warehouse using SSIS.
* We will validate the loan applications for all the required fields and for field format using the conditional split tool in SSIS and create a CSV file to notify the loan officers of the errors so that they can be corrected by the relevant parties before the loan officer resubmit the applications.
* We will create jobs in SQL for loan officers to run the package solutions manually or automatically in SSIS on a daily basis or as required by the business. Below diagram illustrate how our data will flow from the source to the Datawarehouse



* We will prepare dashboards using Power BI and Pivot Tables. We will make a PowerPoint presentation to RMG and give our recommendations based on our findings on the areas that need improvement or exploration by December 10, 2022.
* Some of the charts we will include in our dashboard and PowerPoint presentation are Loans to date by Marital status, by Age group, by Race and by Gender etc.

# Needs Statement

A need statement provides a clear explanation of an issue that a given organization is facing and outlines a public or community need.

**Needs statements** are only as reliable as the data you have, so data or findings are based on real observation and a solution in to solving the problem/need.

**RMG STRATEGIC NEEDS AS PRESENTED BY VISION ACHIEVERS LLC**

1. C**onsolidate the loan applications that are received into one Loan Application:**

We can assure the stakeholders that we have a plan of referencing and collecting data in one place then it can be distributed to the different forms of application used e.g., email, online and Zillow. Stakeholders can be sure to access the data from one source and this way the company is able to know which source gives them more business and can concentrate on making it better to increase sales.

2. **Validate the loan applications for all the required fields and for field format:**

Our company can add and format the fields that can help validate the application process by making sure that someone has to complete the mandatory fields before the application can close.

3.**The application process needs verification:** We are able to install an automated application process where clients are approved or rejected automatically if they do not meet the given threshold in a way that all the applications that will be on the system will have been approved and processed.

4.**Notification about the errors.**

This is eating into the company’s time, and we need to help solve the puzzle of errors and how they can be corrected and saved directly into the database/data bank like clean data. We have a plan on how to ensure the errors are corrected when the applicant is filling in the application. The Loan officers’ jobs should be just approving for those that qualify by not fixing errors then re-submit the application.

5. **What is the targeted population**

We are able to establish according to age, gender region and time of purchase from various applications received to know the targeted audience and the company is able to make a decision to increase sales based on the outcome.

# Business Requirements

The following sections document the various business requirements of this project. Please use the existing template to document

## Functional and Non- Functional Requirements

| **Requirement** | **Priority** | **Description** | **Functional/Non-Functional** | **Use Case Reference** | **Impacted Stakeholders** |
| --- | --- | --- | --- | --- | --- |
| Business User | 1 | Valid Application | Functional |  | RMG Lending specialist |
| Reporting, Data | 1 | Daily Application Report | Functional |  | Data Analyst |
| Support and Maintenance | 1 | Datawarehouse updates | Functional |  | Data Analysts |
| Security, Access Control, and Compliance (Includes roles, user access needs) | 1 | Age and Social Security | Functional |  | RMG  Loan Officers |
| Service Level (Includes Service Level, Scalability, and Performance) | 1 | Stored Procedure set up | Functional |  | Lending  specialist |
|  | 1 |  | Functional |  |  |

# Identify Stakeholders

The following comprises the internal and external stakeholders whose requirements are represented by this document:

|  | **Stakeholders** | **Roles and Responsibilities** |
| --- | --- | --- |
| 1. | Revolution Mortgage group | * To offer mortgage loans to customer/borrowers * Serve lending needs of individual homebuyers, real estate professionals and builder in their lending network * Provide professional loan lending expertise to his customers * offer access to the best loans available in the marketplace, * Review loan alternatives,   Provide convenient online -24 hours a day loan application to customers |
| 2. | RMG Lending Specialist | * Find the right loan with best rates and best terms and costs to meet customer unique needs |
| 3. | RMG Loan Officers | * Screen application for errors, * Fix loan application errors and resubmit the application for further validation. * Process loan applications for approval or rejection |
| 4. | North Beach bank | * Offer subsidiary banking services support to Resolution Mortgage group RMG |
| 5. | Borrower & Customers | * Fill loan application forms and fax or email directly to RMG * Provide the required loan documentations * Provide a co-borrower where applicable |
| 6. | Co-Borrower | * Provide additional loan requirement support to customers who don’t fully qualify for loans on their own |
| 7. | Real Estate Agencies | * To help list the houses and advertise it on Zillow. |
| 8. | Zillow.com | * Provide a search engine platform for mortgage loan rates to customers * Receives loan application from customers on behalf of RMG for processing * Send the 1003 applications in a csv format real time to RMG. |
| 9. | Data Analyst | * Develop a database/ data warehouse for processing and reporting data * Prepare excel spreadsheet * Test Plan & Test Case Document * SSIS Package(s) * Dashboard |

# SWOT Analysis

The project will study the organization to identify its internal strength and weaknesses, as well as its external opportunities and threats.

|  |  |  |  |
| --- | --- | --- | --- |
| **Strength** | **Weakness** | **Opportunity** | **Threat** |
| * Strong reputation as an outstanding mortgage lender. * Wide demographic area * Expertise mortgage loan officers * Accessibility to loans facility | * Bulk applications from online, email & fax * Data from multiple systems * Data security lapse (manual filing of data) * Tedious entering of data | * Develop a system that consolidate loan applications received * System validates loan applications required fields and format | * New competitors or expansion in existing competition * Financial institutions offering mortgage Loans |

1. Key Assumptions and Constraints

|  |  |
| --- | --- |
| **#** | **Assumptions** |
|  |  |
| 1 | We assume that the project was done over 2 months |
| 2 | We assume the stakeholders were busy with other projects as well |
| 3 | We assume that the as the project progressed, the client wanted to extend the project scope based on opportunities identified along the way |
| 4 | The sample size was 500, ideally a big size of at least 1000 would have been more ideal |
| 5 | The budget which was allocated was towards the project was too small |
| 6 | We assume that some of the applications received from prospective lenders were not legitimate |
|  |  |
| **#** | **Constraints** |
|  |  |
| 1 | The time allocated to complete the project was not enough, considering the scope of the project |
| 2 | It was a challenge getting all the stakeholders together due to different commitments with other projects |
| 3 | The client had a challenge in understanding the project scope, which resulting in a lot of back and forth during the delivery |
| 4 | The sample size was too small, a larger sample size would have been more conclusive |
| 5 | The total cost of the project was almost double in the end, and it did put a financial strain on the client |
| 6 | The integrity of some of the data was compromised due to illegitimate applicants |
|  |  |

# Time Frame and Schedule

The project is expected to be completed within 4 weeks.

SCHEDULE AND TIMELINE

|  |  |
| --- | --- |
| **Week 1**  **11/15/2022** | Day 1 -----------Business Requirements Document – BRD  Day 2------------Test Plan & Test Case Document  Day 3------------SSIS Package(s)  Day 4------------Dashboard |
| **Week 2**  **11/22/2022** | Day 1 -----------Understand the project  Day 2 -----------Break down the tasks  Day 3 -----------Create a Database / Data warehouse  Day 4 -----------Collect the input data (Dummy Data) 200 – 500 records  Day 1 ------------RMG Database – Gender (Male/Female)  Day 2 ------------Excel – Gender (1/0)  Day 3 ------------CSV – Zillow Gender (M/F)  Day 4 ------------Create a data flow |
| **Week3**  **11/29/2022** | SSIS Schedules  Day 1 -------Packages – Extract From the source  Day 2 -------Every Hour – Database  Day 4 -------Every night – Excel Input  Day 5 --------Every 5 minutes - CSV  Day 6---------Staging DB – All Business Rules will be affected here |
| **Week 3**  **12/1/2022** | Day 1 --------Reports & Visualizations |
| **Week 4**  **12/8/2022** | Day 1 --------Documentation & PowerPoint Presentation |
| **Week 5**  **12/15/2022** | Day 1 ---------Presentation and Launch the project |

# Budget and Financial Impact

# Cost-benefit Analysis

RMG Mortgage Group aims at improving the already existing loan application process. During the project development and deployment, direct and indirect costs will be incurred to successfully achieve the goals.

|  |  |  |  |
| --- | --- | --- | --- |
| **Task Name** | **Category** | **Value** | **Key Performance Indicators (KPIs)** |
| **Cost** |  |  |  |
| 40 project elicitation hours | Direct Cost | $20,000 |  |
| 2 weeks project testing hours | Direct Cost | $12,000 |  |
| 10 Database/ Datawarehouse development hours | Direct Cost | $5,000 |  |
| Internet | Indirect Cost | $49.99 |  |
|  |  |  |  |
| **Benefits** |  |  |  |
| Increased customer satisfaction |  |  | 20% decrease in customer churn |
| Increased loan processing time |  |  | 65% Increase in productivity |
|  |  |  |  |

**USE CASES USE CASE DIAGRAM USE CASE NARRATIVE**

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: |  | | |
| Use Case Name: |  | | |
| Created By: |  | Last Updated By: |  |
| Date Created: |  | Date Last Updated: |  |

|  |  |
| --- | --- |
| Actors: |  |
| Description: |  |
| Preconditions: |  |
| Postconditions: |  |
| Normal Course: |  |
| Alternative Courses: |  |
| Exceptions: |  |
| Includes: |  |
| Priority: |  |
| Frequency of Use: |  |
| Business Rules |  |
| Special Requirements: |  |
| Assumptions: |  |
| Notes and Issues: |  |
| Use Case Graphic | |