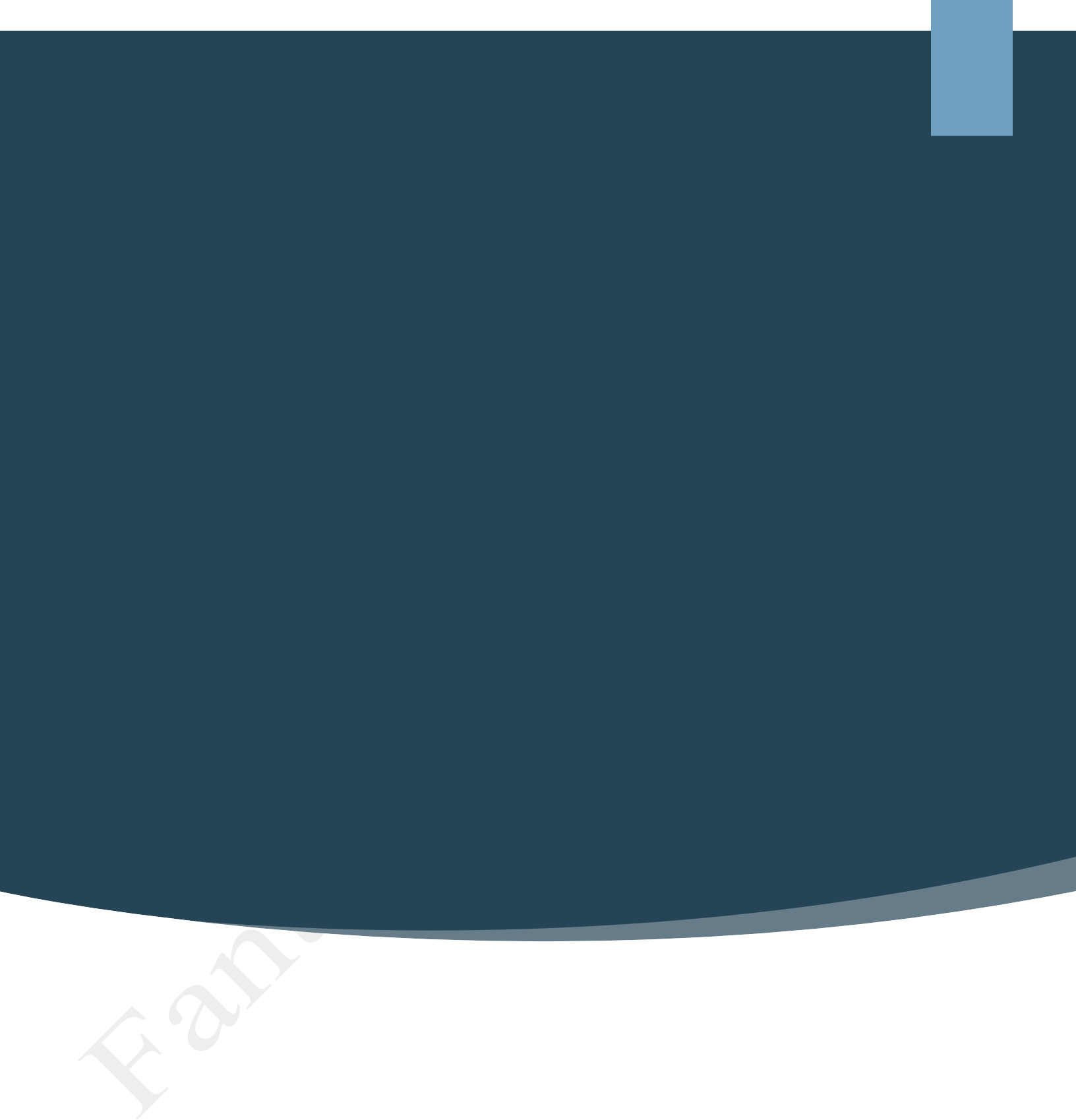
**2023**



Capstone Project Assignment 3

**GROUP NAME: GROUP F**

**GROUP MEMBERS:**

**PRAHSANTH KUMAR PATIL CHETAN DARSHAN PATEL PARTH ARVINDBHAI PATEL VEDIKA SINGH**

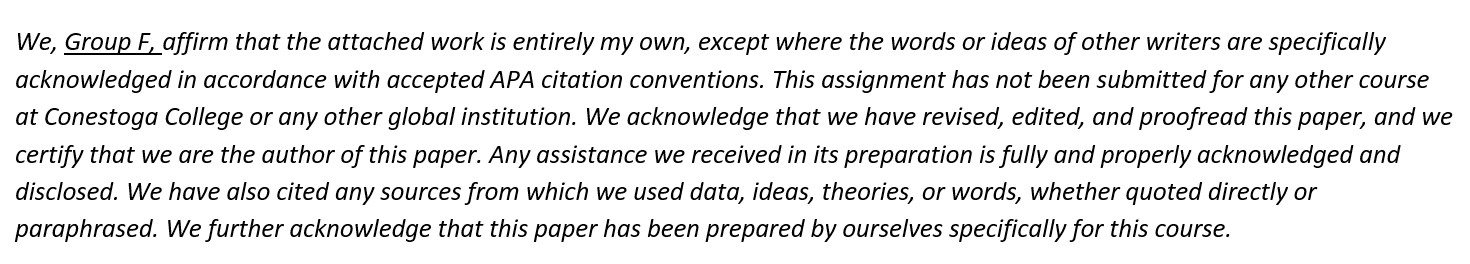
**PRABHJEET SINGH**

**COURSE CODE: INFO8686 PROFESSOR: MAHESH KUMAR**

**DATE DISTRIBUTED: SEPTEMBER 26TH 2023 DUE DATE: OCTOBER 5TH 2023**

5th October 2023 Assignment 3: RFI Document INFO8686 – Section 05

# DECLARARATION:



Fanta5tic Solutions

**FANTA5TIC SOLUTIONS**

T U R N I N G I M M A G I N A T I O N I N T O I N N O V A T I O N

**Greetings!**

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Guelph, Ontario Canada, N1E 1E7

[www.Fanta5ticsolutions.com](http://www.Fanta5ticsolutions.com/)

October 3rd, 2023

[Ppatil9714@conestogac.on.ca](mailto:Ppatil9714@conestogac.on.ca)



We hope this letter finds you well. On behalf of Fanta5tic Solutions, I am pleased to introduce our organization and extend an invitation to participate in the Request for Information (RFI) process for the MortgageBotX Project.

**Overview of the MortgageBotX Project:** The MortgageBotX Project is a significant initiative aimed at revolutionizing the mortgage services offered by the Royal Bank of Canada. Our goal is to recommend an advanced AI-driven chatbot solution that will enhance customer experiences, streamline operations, and provide valuable insights for continuous improvement.

**Purpose of this RFI:** This RFI is a critical step in our project's planning phase. We are reaching out to potential solution providers, like RBC, to gather valuable insights, information, and expertise related to AI chatbot technologies, capabilities, and best practices.

**Your Expertise Matters:** We understand that RBC has a wealth of experience and knowledge in the financial services industry. We believe that your insights and feedback can significantly contribute to the success of the MortgageBotX Project.

**Next Steps:** We kindly request your participation by providing the information and insights requested in the attached RFI document. Your responses will be crucial in shaping our project's direction and ensuring that the solution aligns with industry standards and best practices.

**Submission Details:** Please submit your responses by **October 15th, 2023,** to our email. We appreciate your prompt attention to this request.

**Confidentiality:** All information shared in response to this RFI will be treated as confidential and used solely for the purpose of project planning.

We look forward to your participation and greatly appreciate your time and expertise in helping us embark on this exciting journey to transform mortgage services at RBC.

Should you have any questions or require clarification on any aspect of the RFI, please do not hesitate to contact [Your Contact Information].

Thank you for considering our invitation, and we eagerly anticipate your valuable insights.

Regards, Prashanth Patil

Project Manager

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# INTRODUCTION

## BACKGROUND

PROJECT OVERVIEW: ***MortgageBotX Project***



**Purpose:**

The MortgageBotX Project is a strategic project that Fanta5tic Solutions and Royal Bank of Canada (RBC) are working on together. The main goal of this project is to improve and alter the mortgage services provided by RBC through the deployment of "MortgageBotX," a sophisticated AI-driven chatbot solution. The project's objectives include revolutionizing the customer experience, streamlining business processes, and utilizing data insights for ongoing development.

**Objectives:**

The project's goals are precise and in line with RBC's larger ambition to enhance its mortgage services:

* **AI Chatbot Development:**

Create and suggest a chatbot powered by AI that is especially suited for RBC's mortgage services.

* **Improved Client Experience:**

To greatly enhance the experience of RBC clients, offer a smooth and user-friendly channel for mortgage-related questions, applications, and assistance.

* **Data-Driven Perspectives:**

Utilize AI to collect and analyze consumer data so that RBC can make data-informed choices about service improvements and product development.

**Our Need for Information:**

We, at Fanta5tic Solutions understands the value of industry knowledge, perceptions, and innovation. To acquire useful data, industry best practices, and cutting-edge technology pertaining to AI chatbots, we are contacting possible suppliers and solution providers. The MortgageBotX Project at RBC can be implemented successfully in large part thanks to your knowledge and solutions.

We hope to find partners, technologies, and approaches through this Request for Information (RFI) that are compatible with the objectives and vision of our project. To revolutionize RBC's mortgage services and, ultimately, improve the experience for RBC clients, we strive to work with leaders and innovators in the industry.

## PROJECT SCOPE & AREAS FOR INFORMATION SOLICITATION:

**PROJECT SCOPE:**

The MortgageBotX Project involves introducing an AI-driven chatbot solution to completely change Royal Bank of Canada's (RBC) mortgage services. The project's scope covers several implementations- related topics for chatbots, as well as customer experience improvement and operational efficiency for RBC's mortgage services business.



**AREAS FOR INFORMATION SOLICITATION:**

We, at Fanta5tic Solutions are looking for knowledge, understanding, and solutions in the following fields:

* Modern AI chatbot skills that are appropriate for mortgage services.
* Best practices for chatbot installation, customer interaction, and user experience design.
* Integration skills with RBC's current systems and technology.
* Regulation adherence and data privacy are ensured through compliance and security procedures.
* Case studies, as well as success stories, of comparable chatbot installations in the financial services sector.

We urge potential suppliers and solution providers to submit their knowledge, approaches, and suggestions in these areas through this Request for Information (RFI) to help the MortgageBotX Project succeed.

# RFI INSTRUCTIONS

## RESPONSE DEADLINE:

All interested vendors and solution providers are requested to submit their responses to this RFI no later than:

**DATE: 15th OCTOBER 2023 TIME: 5:00 PM EST**

## CONTACT INFORMATION:

For Inquiries:

NAME: CHETAN DASHRATHLAL PATEL ROLE: SME



EMAIL: [cpatel8015@conestogac.on.ca](mailto:cpatel8015@conestogac.on.ca) PHONE: 519-731-4802

For Submissions:

NAME: PRASHANTH KUMAR PATEL ROLE: PROJECT MANAGER

EMAIL: [Ppatil9714@conestogac.on.ca](mailto:Ppatil9714@conestogac.on.ca) PHONE: 519-731-8565

## SUBMISSION FORMAT:

|  |  |
| --- | --- |
| SUBMISSION FORMAT | PDF |
| EMAIL SUBMISSION | [Ppatil9714@conestogac.on.ca](mailto:Ppatil9714@conestogac.on.ca) |
| EMAIL SUBJECT | RFI RESPONSE – [YourCompanyName] |
| NAMING CONVENTION | RFI\_Response\_[YourCompanyName].pdf |

**Confidentiality:** All information provided in response to this RFI will be held in strict confidence and used only for project planning and assessment.

**Response Information**: Make sure that all part and question included in the RFI paper are covered in your answer. Submissions that are incomplete or in part may not be given due attention.

**Several Submissions:** If a vendor offers several products or services that are pertinent to the RFI, they are permitted to submit more than one answer.

# PROJECT REQUIREMENTS:

* 1. **DETAILED REQUIREMENTS:**

The below table explains the Specific Requirements, Functionalities and Features of the MortgageBotX Project-



|  |  |
| --- | --- |
| **FEATURES** | **FUNCTIONALITY** |
| * AI Chatbot Capabilities | |
| Natural Language Processing (NLP) | For the solution to effectively comprehend and reply to customer enquiries, it needs have powerful NLP capabilities. |
| Contextual Knowledge | The capacity to keep context during a conversation to provide a smooth user experience |
| Adapting to Current Systems | Compatible for data processing and retrieval with RBC’s present IT infrastructure |
| * User Experience and Interface | |
| Friendly User-Interface | A Customer-facing chatbot interface that is clear and easy to use |
| Personalization | The ability to customize suggestions and answers depending on user histories and profiles |
| * Mortgage Services | |
| Information about Mortgages | Give specific details on mortgage products, rates, and terms. |
| Application Support | Users should be guided through the mortgage application process, |
| Calculators for Mortgages | Provide interactive calculators for calculating affordability, mortgage payments, and other  things. |
| * Data Analytics and Insights | |
| Data Gathering | To discover patterns and consumer behavior, gather and evaluate user data. |
| Dashboards and Reports | Create dashboards and reports for RBC to analyze customer interactions. |

|  |  |
| --- | --- |
| Forecasting Analysis | Predictive modeling with data may be used to enhance services and products |
| * Compliance and Security | |
| Data Privacy | Ensure adherence to data privacy laws, such as the CCPA and GDPR. |
| Security Precautions | To safeguard user information and transactions, use strong security measures. |
| The Audit Trail | Keep thorough audit records of chatbot interactions for compliance and oversight |
| * Scalability and Performance | |
| Scalability | To handle increasing user numbers and interactions, the system must be scalable. |
| Strong Availability | For continuous service, provide high availability and low downtime. |
| Performance Metrics | Keep tabs on chatbot performance and produce reports on response times and user satisfaction. |
| * Customer Support and Training | |
| Training and Documentation | Provide RBC personnel with training materials and documentation so they can administer and maintain the chatbot. |
| Support and Maintenance | Offer ongoing maintenance, support, and updates. |
| * Customization and Flexibility | |
| Configuration | To easily react to changing demands, make it possible to easily customize chatbot operations and replies. |
| Extension Capabilities | Offer choices for enhancing the functionality of the chatbot with unique modules or plugins |
| * Reporting and Analytics | |
| Strong Reporting | Provide extensive reporting tools to monitor performance metrics, customer happiness, and chatbot usage. |
| Dashboard for Analytics | Give a data visualization and real-time insights analytics dashboard |



## TECHNICAL SPECIFICATIONS AND STANDARDS:

The following are some of the technical specifications and standards:

* AI Chatbot Platform Requirements-



* + The chatbot solution must be developed on a dependable, expandable platform that complies with industry norms.
  + Ensure compatibility with the operating systems and browsers that RBC prefers, including Windows, Linux, and OS and Chrome, all other browsers.
* Standards for security and Compliance-
  + To protect user data during interactions, the solution must adhere to industry-standard security methods, such as HTTPS encryption.
  + Compliance: Comply with pertinent regional requirements, such as the GDPR, CCPA, and any others that pertain to data protection and security.
* Scalability and Effectiveness-
  + Scalability: To handle growing user loads, the chatbot system must be scalable both horizontally and vertically.
  + Define the performance parameters that the solution must fulfill, such as response times and the number of concurrent users.
* Data handling and Storage-
  + Implement encryption standards for both data in transit and data at rest.
  + Define the norms and standards for data retention for user interactions and transaction history.
* Accessibility Requirements-
  + WCAG (Web Content Accessibility Guidelines) compliance Make that the chatbot's user interface conforms with WCAG accessibility standards.
  + Assistive technology support: Users with impairments should be able to utilize the chatbot with their assistive technology.
* NLP: Natural Language Processing-
  + Identify the NLP algorithms or libraries that should be utilized for language processing and comprehension.
  + Make sure the program supports numerous languages and does it with great precision.
* Tests and Quality Control-
  + Testing Standards: Specify the procedures and standards for testing, such as user acceptance testing (UAT), integration testing, and unit testing.

## COMPLIANCE AND SECURITY:

* To guarantee the safety of sensitive data and preserve regulatory compliance, the solution or service must closely conform to market-leading compliance and security standards.
* It must also adhere to strict security requirements for data encryption both at rest and while in transit, using the most recent encryption algorithms and techniques.



* The solution should also be in line with accepted online security best practices, such as frequent security audits, access controls, and safe authentication procedures.
* To guarantee that the solution is accessible to people with disabilities, compliance with accessibility standards, such as the Web Content Accessibility Guidelines (WCAG), is crucial.

The safety of user data, guaranteeing regulatory compliance, sustaining the highest standards of data protection, and maintaining user accessibility are all dependent on these compliance and security requirements.

# INFORMATION REQUESTED:

## SOLUTION OVERVIEW:

The MortgageBotX, a cutting-edge AI-driven virtual mortgage assistant created especially for RBC Mortgage Services, is proudly offered by Fanta5tic Solutions. By offering a simplified, effective, and customer-focused experience, MortgageBotX is intended to improve how RBC communicates with mortgage applicants. MortgageBotX primary traits and skills include:

* Knowledgeable Mortgage Advice:
  + Advanced Natural Language Processing (NLP) and Machine Learning (ML) techniques are used by MortgageBotX to give insightful direction throughout the mortgage application process.
  + Applicants may converse naturally with the chatbot and get help right away with questions, document uploads, and mortgage calculations.
* A Customizable User Experience:
  + A highly tailored experience is provided by MortgageBotX, which adjusts suggestions and replies depending on user profiles, preferences, and previous interactions.
  + It keeps track of previous exchanges to provide smooth continuity and context preservation.
* Complete information about Mortgages:
  + Users get access to comprehensive information about the eligibility requirements, interest rates, terms, and mortgage options offered by RBC.
  + MortgageBotX makes complicated financial concepts simple so that applicants may comprehend their alternatives.



* Calculators for Mortgages:
  + Users may estimate mortgage payments, affordability, and possible savings with the use of interactive mortgage calculators in MortgageBotX.
  + Users can investigate different circumstances and come to wise judgments.
* Real-time Updates:
  + The status of users' mortgage applications is immediately updated, promoting openness and lowering uncertainty.
  + Milestones and future actions are proactively communicated by MortgageBotX.
* Data Security and Privacy:
  + The solution perfectly complies with all data privacy laws, such as the CCPA and GDPR, guaranteeing the greatest degree of data protection.
  + Strong security measures are in place to secure sensitive data, and user data is encrypted both at rest and in transit.
* Integrating RBC Systems:
  + A single view of client data is ensured by MortgageBotX seamless integration with RBC's current systems, including the client Relationship Management (CRM) platform.
  + For effective document handling, it also connects with document management systems.

MortgageBotX is ready to improve the mortgage application process for RBC clients, streamline internal operations, and offer useful information for strategic decision-making. It constitutes a substantial stride toward a more technologically sophisticated and customer-centric approach to mortgage services.

## PRICING STRUCTURE:

Our pricing structure is designed to be flexible and transparent, ensuring that RBC can choose the most suitable option:

* **Initial Development:** We offer competitive rates for the initial development and deployment of the chatbot, tailored to the project's scope and complexity.
* **Licensing:** Our licensing fees are based on the number of users and the level of customization required. We offer both one-time licensing and subscription-based models to accommodate RBC's preferences.
* **Ongoing Maintenance:** Our maintenance costs cover regular updates, bug fixes, and continuous improvement of the chatbot's capabilities. These costs are determined based on the agreed-upon service level agreement (SLA).

## SUPPORT AND MAINTENANCE:



To guarantee the chatbot performs at its best, we offer thorough support and maintenance services:

* **Support provided round-the-clock:** Our support staff is on hand 24/7 to respond to any problems or questions.
* **Frequently Released Updates:** We frequently issue updates to enhance usability, security, and user experience.
* **Scalability:** Our team ensures that the chatbot can scale to handle increased user demand without disruptions.
* **Issue Resolution:** We guarantee quick response times for issue resolution, with dedicated channels for reporting and tracking problems.

# EVALUATION CRITERIA:

## SELECTION CRITERIA:

These standards will be used as the foundation for evaluating vendor replies, ensuring that the chosen vendor delivers a cost-effective, dependable, and creative solution supported by relevant expertise and references in addition to meeting the project's technical needs.

* Compliance with Requirements-

Vendors will be judged on their capacity to satisfy and go above the RFI's technical and functional specifications. It is crucial to adhere to technical requirements, standards, and integration requirements.

* Cost-Effectiveness:

An important consideration in the evaluation process will be how cost-effective the vendor's suggested solution is. Vendors must present clear pricing policies and show how their costs correspond to the benefits and features provided.

* Knowledge and Skills-

We will carefully consider the vendor's experience and know-how in creating AI-driven chatbot solutions for financial institutions, especially in the mortgage industry. Previous initiatives, achievements, and industry recognition will all be considered.

* References and Case Studies-

Vendors, particularly those in the financial services industry, would be required to submit references and case studies from past clients. Positive comments, successful projects, and customer endorsements will be given a lot of weight.

* Scalability and Innovation-



The vendor's solution's capacity for innovation and adaptation to shifting technological environments, as well as its scalability to support RBC's future expansion, will be evaluated. This involves considering improvements in machine learning, the introduction of new features, and scalability.

## EVALUATION PROCESS:

Several organized procedures are used in the MortgageBotX Project to evaluate answers and choose possible suppliers for additional conversations or negotiations. This method helps to guarantee a complete and unbiased evaluation. Here is how the procedure is broken down:

* A thorough and methodical evaluation will be used to compare replies and choose possible vendors for additional conversations or negotiations.
* All vendor replies will initially be checked for conformance to the technical requirements, standards, and specifications of the project.
* After this first screening, suppliers will be assessed using criteria including cost-effectiveness, expertise in the business, customer references, and innovation.
* Vendors who exhibit a strong fit with these requirements will be considered for additional conversations.
* Through these meetings, RBC will have the chance to learn more about the suggested solutions, get any questions answered, and determine whether the vendor can handle its requirements.
* To choose the best qualified partner to work with Fanta5tic Solutions and RBC on the MortgageBotX Project, a final selection of possible suppliers will then be made based on their general appropriateness.

# CONFIDENTIALITY:

## CONFIDENTIALITY AGREEMENT:

Yes, a confidentiality agreement must be signed by vendors taking part in the MortgageBotX Project's RFI process to safeguard private data given during the review. This agreement makes sure that everyone is aware of their responsibilities for managing and protecting sensitive information. It aids in preserving the security and confidentiality of confidential information, trade secrets, and other sensitive project-related information. Throughout their involvement in the RFI process, vendors must abide by the provisions of the confidentiality agreement.



# THANK YOU, RBC:

We would like to convey our heartfelt appreciation for your active involvement in the MortgageBotX Project's Request for Information (RFI) procedure. Your participation and suggestions are much appreciated and help make this endeavor a success.

We value the time and effort your team put into reading through our RFI paper, posing thoughtful queries, and offering insightful input. Your dedication to making sure that you fully comprehend the needs of our project is admirable.

Please know that your suggestions will be carefully considered as we continue to evaluate the RFI, and that we are keen to investigate potential partnership prospects. We think your skills and background complement the aims of the MortgageBotX Project, and we look forward to the prospect of collaborating to meet our common goals.

Contact our authorized point of contact at ***Prashanth Patil, Project Manager***, if you have any more questions, need more details, or want to talk about any parts of the project.

We want to thank you once more for your involvement and enthusiasm in the MortgageBotX Project. We look forward to an exciting path ahead and the chance to use our accumulated talents to produce remarkable achievements.

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