**UWM - Technical Stories**

**User Story: Loan Eligibility Determination Engine**

**Description:** As a system, I want to have an eligibility determination engine that analyses the borrower's information from various pages and applies predefined rules to determine their loan eligibility. The engine should consider factors such as credit score, income, employment, assets, liabilities, and property information to assess eligibility for different loan programs.

**Acceptance Criteria:**

1. The eligibility determination engine should take into account the borrower's information from relevant pages, including Personal Details, Financial Information, Credit Information, Property Information, and other relevant sections.
2. The engine should follow predefined rules and criteria to assess loan eligibility accurately.
3. The engine should be able to handle different loan programs and their specific eligibility requirements.
4. The eligibility determination process should be consistent, transparent, and unbiased.
5. The eligibility determination engine should provide clear and actionable results indicating whether the borrower meets the eligibility criteria for each loan program.
6. The engine should accurately evaluate the borrower's information and provide eligibility results in a timely manner.
7. The engine should handle different scenarios, such as updates or changes in the borrower's information, and re-evaluate the loan eligibility accordingly.

**Functional Flows:**

1. The eligibility determination engine receives data from different pages of the loan application.
2. The engine applies predefined rules and criteria to analyze the borrower's information.
3. The engine evaluates the borrower's credit score, income, employment status, assets, liabilities, and property information.
4. The engine checks the borrower's information against the eligibility requirements of different loan programs.
5. If the borrower meets the eligibility criteria for a specific loan program, the engine marks it as eligible.
6. If the borrower does not meet the eligibility criteria for a specific loan program, the engine marks it as ineligible.
7. The engine generates a report or summary indicating the loan programs for which the borrower is eligible and those for which they are not.
8. The eligibility determination engine updates the eligibility results whenever there are changes or updates in the borrower's information.
9. The engine provides the eligibility results to the user or system interface for display and further processing.

**User Story: Loan Eligibility Calculation Engine**

**Description:** As a system, I want to have a loan eligibility calculation engine that analyzes the borrower's information from various pages and performs calculations based on predefined formulas and criteria. The engine should consider factors such as credit score, income, employment, assets, liabilities, and property information to determine the borrower's loan eligibility.

**Acceptance Criteria:**

1. The loan eligibility calculation engine should take into account the borrower's information from relevant pages, including Personal Details, Financial Information, Credit Information, Property Information, and other relevant sections.
2. The engine should follow predefined formulas and criteria to perform accurate loan eligibility calculations.
3. The engine should consider different loan programs and their specific eligibility requirements in the calculations.
4. The loan eligibility calculation process should be consistent, transparent, and unbiased.
5. The engine should provide clear and understandable calculations indicating the borrower's loan eligibility based on the given information.
6. The engine should accurately evaluate the borrower's information and perform calculations in a timely manner.
7. The engine should handle different scenarios, such as updates or changes in the borrower's information, and recalculate the loan eligibility accordingly.

**Functional Flows:**

1. The loan eligibility calculation engine receives data from different pages of the loan application.
2. The engine performs calculations based on predefined formulas and criteria using the borrower's information.
3. Sample calculations based on common criteria could include:
   * Debt-to-Income Ratio: Calculate the borrower's debt-to-income ratio by dividing total monthly debt payments by monthly gross income.
   * Loan-to-Value Ratio: Calculate the loan-to-value ratio by dividing the loan amount by the appraised value of the property.
   * Credit Score Evaluation: Evaluate the borrower's credit score based on predefined ranges and assign a corresponding score.
   * Affordability Calculation: Calculate the maximum loan amount the borrower can afford based on their income, debt payments, and other expenses.
4. The engine compares the calculated values against the eligibility requirements of different loan programs.
5. If the borrower meets the eligibility criteria for a specific loan program based on the calculations, the engine marks it as eligible.
6. If the borrower does not meet the eligibility criteria for a specific loan program based on the calculations, the engine marks it as ineligible.
7. The engine generates a report or summary indicating the loan programs for which the borrower is eligible and those for which they are not.
8. The loan eligibility calculation engine updates the eligibility results whenever there are changes or updates in the borrower's information.
9. The engine provides the loan eligibility calculations to the user or system interface for display and further processing.

**User Story: Loan Amount Calculation Based on Borrower Information**

**Description:** As a system, I want to have a loan amount calculation feature that analyses the borrower's information from various pages and applies predefined rules and formulas to determine the maximum loan amount they would be eligible for. The calculation should consider factors such as income, credit score, debt-to-income ratio, and property information.

**Acceptance Criteria:**

1. The loan amount calculation feature should consider the borrower's information from relevant pages, including Personal Details, Financial Information, Credit Information, Property Information, and other relevant sections.
2. The calculation should follow predefined rules, formulas, and criteria to accurately determine the maximum loan amount the borrower would be eligible for.
3. The calculation should take into account factors such as income, credit score, debt-to-income ratio, and property details.
4. The loan amount calculation process should be consistent, transparent, and unbiased.
5. The calculated loan amount should be based on realistic and sustainable criteria that align with lending standards and regulations.
6. The loan amount calculation should be performed accurately and efficiently, providing a reliable estimate for the borrower.
7. The calculation should handle different scenarios, such as updates or changes in the borrower's information, and recalculate the loan amount eligibility accordingly.

**Functional Flows:**

1. The loan amount calculation feature receives data from different pages of the loan application.
2. The feature performs calculations based on predefined rules, formulas, and criteria using the borrower's information.
3. Sample calculations and rules for determining the loan amount eligibility could include:
   * Income-based Calculation: Multiply the borrower's annual income by a predefined factor or percentage to determine the maximum loan amount they qualify for.
   * Debt-to-Income Ratio Calculation: Calculate the borrower's debt-to-income ratio by dividing total monthly debt payments by monthly gross income. Apply a predefined limit or threshold to determine the loan amount eligibility.
   * Credit Score Evaluation: Evaluate the borrower's credit score based on predefined ranges and assign corresponding loan amount eligibility.
   * Loan-to-Value Ratio Calculation: Calculate the loan-to-value ratio by dividing the loan amount by the appraised value of the property. Apply a predefined maximum limit to determine the loan amount eligibility.
4. The feature considers other factors such as the borrower's employment history, assets, liabilities, and property details in the loan amount calculation.
5. The calculated loan amount represents the maximum loan amount the borrower would be eligible for based on the given information and criteria.
6. The loan amount calculation feature generates a report or summary indicating the maximum loan amount eligibility for the borrower.
7. The loan amount eligibility is updated whenever there are changes or updates in the borrower's information.
8. The calculated loan amount is provided to the user or system interface for display and further processing.

**User Story: Displaying Rate Lock Table with Rules and Calculations**

**Description:** As a user, I want to view a rate lock table that displays the available interest rates and corresponding lock-in periods for different loan products. The table should include rules and calculations for determining the interest rates based on loan parameters and market conditions.

**Acceptance Criteria:**

1. The rate lock table should be accessible from the user interface, providing a clear and user-friendly view of the available interest rates.
2. The table should include columns for loan product, interest rate, lock-in period, and any additional relevant information.
3. The interest rates displayed in the table should be based on predefined rules and calculations that consider loan parameters and market conditions.
4. The rate lock table should be regularly updated to reflect changes in interest rates and market conditions.
5. The table should be responsive and adaptable to different screen sizes and devices.
6. The rate lock table should be visually appealing, organized, and easy to read.
7. The table should provide filtering and sorting options to allow users to search for specific loan products or interest rate ranges.
8. The rate lock table should support pagination or scrolling functionality for easy navigation through multiple loan products.
9. The table should include clear labels or indicators to denote any special offers, promotions, or conditions associated with specific interest rates or lock-in periods.

**Functional Flows:**

1. The user accesses the rate lock table page from the user interface.
2. The page retrieves the latest interest rate data and loan product information from the backend system.
3. The rate lock table is populated with the loan product details, including interest rates and lock-in periods.
4. The table applies predefined rules and calculations to determine the interest rates based on loan parameters, such as loan amount, loan term, borrower's credit score, and loan-to-value ratio.
5. The rate lock table incorporates market conditions and updates the interest rates accordingly.
6. The table includes a column that displays the lock-in period for each interest rate, indicating how long the rate can be locked.
7. The rate lock table allows the user to filter or sort the displayed loan products based on specific criteria, such as loan type or interest rate range.
8. The table provides pagination or scrolling functionality to navigate through multiple loan products if the list exceeds the visible area.
9. The rate lock table is updated periodically to reflect changes in interest rates and market conditions.
10. The user can click on a specific loan product or interest rate to view additional details or initiate the rate lock process.

**User Story: Implement Data Security and Privacy Requirements**

**Description:** As a user, I want the system to ensure robust data security and privacy measures to protect sensitive borrower information. This includes implementing encryption, access controls, and compliance with relevant data protection regulations.

**Acceptance Criteria:**

1. The system should implement encryption mechanisms to protect sensitive borrower data both at rest and in transit.
2. Access to borrower data should be restricted to authorized personnel and require proper authentication and authorization.
3. The system should enforce strong password policies to prevent unauthorized access.
4. User roles and permissions should be implemented to control data access based on job responsibilities and need-to-know principles.
5. Audit logs should be maintained to track and monitor data access, modifications, and system activities.
6. Sensitive borrower data, such as social security numbers, financial statements, and credit reports, should be stored securely with limited access.
7. The system should comply with relevant data protection regulations, such as GDPR or CCPA, and ensure appropriate data handling and consent management.
8. Regular security assessments and penetration testing should be conducted to identify and address vulnerabilities.
9. The system should have procedures in place to detect and respond to security incidents promptly.
10. Staff members should receive regular training on data security and privacy best practices.

**Functional Flows:**

1. Implement encryption protocols, such as SSL/TLS, to secure data transmission between the user interface and the backend system.
2. Encrypt sensitive borrower data at rest using strong encryption algorithms and proper key management practices.
3. Implement user authentication mechanisms, such as username/password or multi-factor authentication, to ensure authorized access to the system.
4. Define user roles and permissions based on job responsibilities and implement access controls to restrict data access.
5. Log user activities, including login attempts, data access, and modifications, to an audit log for monitoring and auditing purposes.
6. Employ secure coding practices to prevent common vulnerabilities, such as SQL injection or cross-site scripting (XSS).
7. Conduct regular vulnerability assessments and penetration testing to identify and address security weaknesses.
8. Implement procedures to handle security incidents, including incident response plans and communication protocols.
9. Provide training sessions and materials to educate staff members on data security and privacy practices and the importance of safeguarding sensitive borrower information.
10. Conduct privacy impact assessments to evaluate the system's compliance with data protection regulations and implement necessary measures to address any identified gaps.

**User Story: Managing Communication Channels**

**Description:** As a user, I want to manage the communication channels associated with borrower accounts. This includes adding, editing, and removing communication channels to ensure effective and efficient communication with borrowers.

**Acceptance Criteria:**

1. The Communication Channels tab should be accessible from the user interface, providing a clear and intuitive interface to manage borrower communication channels.
2. Users should be able to add, edit, and remove communication channels for each borrower account.
3. The system should validate the entered communication channel details to ensure data integrity and accuracy.
4. The Communication Channels tab should support different types of communication channels, such as email, phone number, and mailing address.
5. The system should enforce data privacy and security measures to protect the borrower's communication channel information.
6. The user interface should provide clear instructions and error messages to assist users in managing communication channels accurately.
7. The Communication Channels tab should be responsive and adaptable to different screen sizes and devices.

**Functional Flows:**

1. The user navigates to the Communication Channels tab in the borrower's account page.
2. The user is presented with a list of existing communication channels associated with the borrower.
3. To add a new communication channel:
   * The user clicks on the "Add New Channel" button.
   * The user selects the type of communication channel from a dropdown list (e.g., email, phone number, mailing address).
   * The user enters the relevant details for the selected communication channel type.
   * The user clicks on the "Save" button to add the new communication channel.
4. To edit an existing communication channel:
   * The user locates the desired communication channel in the list.
   * The user clicks on the "Edit" button associated with the communication channel.
   * The user updates the necessary fields of the communication channel.
   * The user clicks on the "Save" button to save the changes.
5. To remove a communication channel:
   * The user locates the desired communication channel in the list.
   * The user clicks on the "Remove" button associated with the communication channel.
   * The system prompts the user to confirm the removal.
   * The user confirms the removal, and the communication channel is deleted from the borrower's account.
6. The Communication Channels tab displays the updated list of communication channels for the borrower.
7. The user can navigate back to the borrower's account page or continue managing other aspects of the account.