Design Media Business Requirements Specification

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1.0 Document Information

1.1 Document History

Date	Version	Description	Author
05/02/2025	01	Initial Draft	Munyaradzi Maketo

1.2 Definitions, Acronyms and Abbreviations

Term	Explanation
BRD	Business Requirements Document (this document)

2.0 Introduction

The pawn business has evolved significantly in recent years, transforming from a traditional, often stigmatized industry into a modern financial service that caters to a diverse clientele. Offering loans against assets, pawnshops provide a quick and accessible solution for individuals seeking immediate cash without the lengthy processes typically associated with banks. In today's fast-paced economy, where financial flexibility is paramount, the pawn industry has adapted by embracing technology and enhancing customer experiences. Modern pawnshops are increasingly driven by sophisticated systems that streamline operations, manage inventory, and facilitate transactions. Many now utilize online platforms and mobile apps, allowing customers to assess their assets' value, manage loans, and even conduct transactions remotely.

This modernization is also reflected in a growing emphasis on transparency and customer service. Today's pawnshops invest in training staff to provide knowledgeable assistance and create a welcoming environment, supported by integrated software systems that improve efficiency and accuracy. Additionally, there's a noticeable shift towards accepting a wider variety of assets, including electronics, jewellery, and collectibles, catering to a broader audience. As consumers increasingly seek alternative financing options, the pawn industry is positioning itself as a legitimate and convenient choice for those needing quick cash, thereby redefining its role in the financial landscape through the effective use of modern systems.

This document will address the specific pawn requirements for the Design Media firm, aiming to create a vibrant and efficient system tailored to the unique needs of the creative industry. By understanding the nuances of asset valuation, loan processing, and customer engagement within the context of Design Media, we can develop a pawn solution that enhances cash flow while maintaining the integrity of the assets involved. The goal is to implement a system that not only streamlines operations but also fosters a positive experience for clients, allowing them to leverage their creative assets effectively. Through this approach, the pawn service can become a vital financial partner for Design Media firm, providing the necessary flexibility to thrive in a competitive market.

2.1 Business Goals

Here are the business goals for a pawn service tailored specifically for a Design Media firm:

1. **Enhance Cash Flow**: Provide quick access to capital through loans against creative assets, enabling the firm to manage operational expenses and invest in new projects without delays.

2. **Improve Asset Valuation**: Develop a robust system for accurately assessing the value of design-related assets, such as equipment, artwork, and prototypes, ensuring fair and competitive loan offers.

3. **Foster Client Relationships**: Build strong relationships with clients by offering personalized service, transparent loan terms, and flexible repayment options, enhancing customer loyalty and satisfaction.

4. **Streamline Operations**: Implement efficient processes and modern technology to reduce transaction times and improve overall service delivery, allowing for a seamless customer experience.

5. **Expand Asset Acceptance**: Broaden the range of accepted assets to include a variety of Design Media-related items, such as digital equipment, artwork, and intellectual property, catering specifically to the needs of creative professionals.

6. **Promote Financial Education**: Educate clients on the benefits and responsibilities of using pawn services, helping them make informed decisions about leveraging their assets.

7. **Leverage Technology**: Utilize advanced systems for inventory management, customer relationship management, and online transactions to enhance operational efficiency and accessibility.

8. **Ensure Compliance and Security**: Maintain high standards of compliance with legal and regulatory requirements while implementing secure practices for asset handling and transaction processing.

9. **Drive Brand Awareness**: Position the pawn service as a trusted financial partner within the community through targeted marketing efforts and participation in industry events.

10. **Measure and Optimize Performance**: Establish key performance indicators (KPIs) to monitor business performance, allowing for continuous improvement in service delivery and client satisfaction.

By focusing on these goals, the pawn service can effectively meet the unique financial needs of the Design Media firm while fostering a supportive and innovative environment for creative professionals.
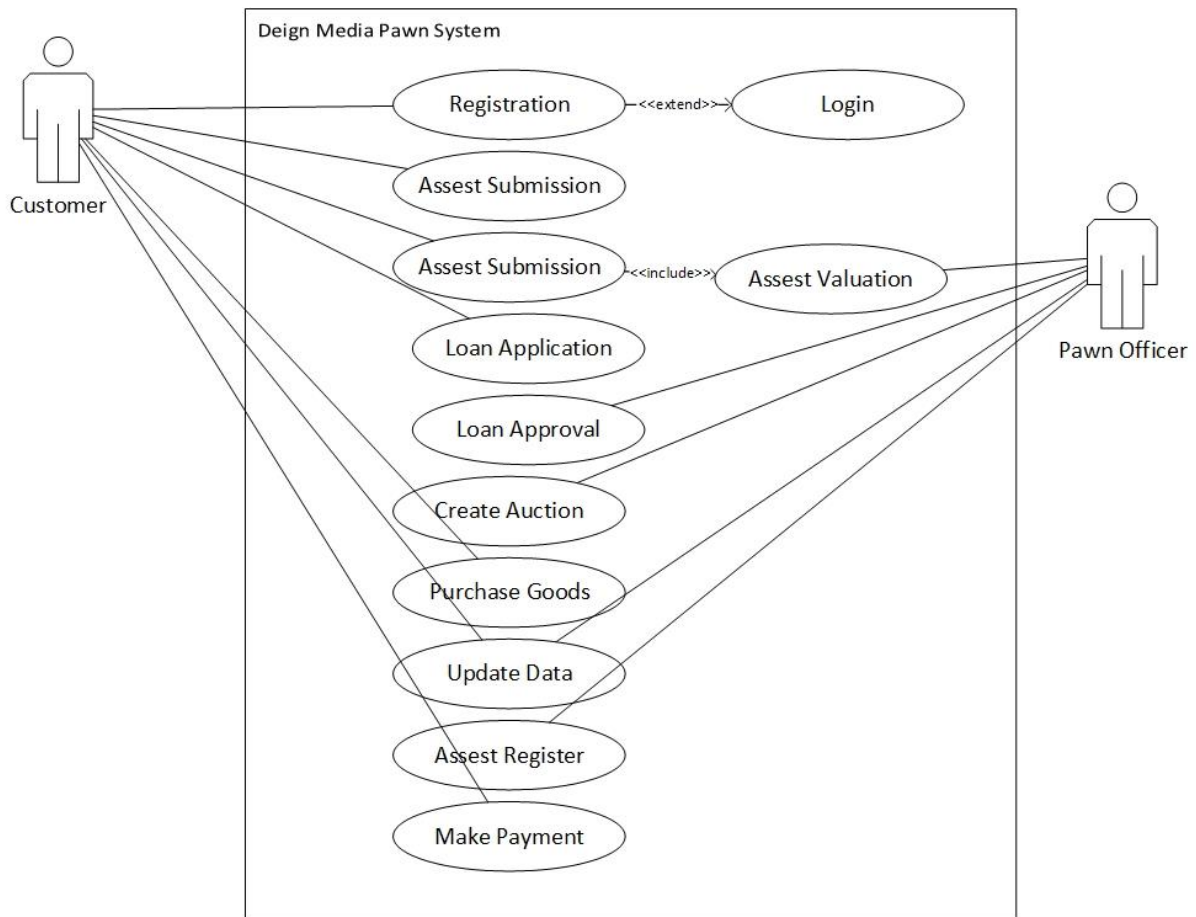
2.2 Scope of Work

This scope of work outlines the development of a pawn service specifically designed for the Design Media firm. The goal is to create a vibrant, efficient system that meets the unique financial needs of creative professionals. By integrating modern technology and streamlined processes, the service will facilitate quick access to capital through asset-backed loans. Key functionalities will include asset valuation, loan processing, and an auction module for unredeemed items. Additionally, the system will incorporate secure payment processing to enhance user experience. This comprehensive approach aims to position the pawn service as a trusted financial partner in the pawn industry

Use Case	Description
User Registration	Allow clients to create and manage their accounts securely, providing personal and asset information.
Asset Submission	Enable users to submit assets for valuation, including uploading images and descriptions.
Asset Valuation	Provide tools for assessing the value of submitted assets based on current market trends and historical data.
Loan Application	Facilitate the submission of loan applications, capturing necessary documentation and asset details.
Loan Approval Process	Implement an automated workflow for reviewing and approving loan applications based on predefined criteria.
Transaction Management	Manage the entire transaction process, including loan disbursement, repayment tracking, and interest calculations.
Payment System Integration	Integrate secure payment processing for loan disbursements and repayments, supporting various payment methods (credit/debit cards, mobile digital wallets).
Auction Module	Develop a module for auctioning off unredeemed assets, including real-time bidding capabilities and notifications for participants.
Client Notifications	Send automated notifications to clients regarding application status, loan reminders, and important updates.
Inventory Management (Within Asset Management)	Track and manage the inventory of accepted assets, ensuring accurate records of all transactions and valuations.
Reporting and Analytics	Generate reports on loan performance, customer engagement, and asset turnover to support decision-making.
Customer Support	Provide a support interface for clients to ask questions, resolve issues, and access educational resources.
System To Be Developed	
Web Portal	With the above functionality

Exclusions	
Website Development	Out of Scope
Franchise Launch and software distribution	Out of Scope
Mobile App Development	Out of Scope
Quality Assurance	Out of Scope. A QA Resource need to be hired independently of the system developers to safeguard the quality and adherence to requirements
Application Deployment	Design Media will purchase hosting environment and we will deploy the application

2.3 Use Case Diagram

The use case diagram for the pawn system illustrates the interactions between various users (actors) and the system's functionalities. Key actors include customers, staff, and admin, each engaging in essential use cases such as pawning items, bidding in auctions, managing loans, and creating auctions. Relationships are represented through associations, indicating how actors interact with the system, while optional includes or extends relationships highlight additional functionalities. Overall, the below diagram serves as a foundational tool for understanding system requirements and guiding development by clearly delineating user interactions and core functionalities.

3 Functional Requirements

The following requirements have been prioritized using the MoSCoW business model, thus, (M- Must Have, S – Should Have, Co- Could Have, W- Won't Have);

3.1 User Account Management

No.	Requirement	Priority	Requirement Description	Business Rules

1.	Customer Registration	M	SFR-DM a. The system should allow users or potential customers to create accounts through the available access channels. These include, Mobile Apps and Web. The minimum KYC details required for Web application are as follows;
			
			• Full Name (required)
			• Email Address (required)
			• Phone Number (required)
			• National Identity Number (required) – user must upload national ID
			• Password (required)
			• Address (required)
			• Location (required)
			• Date of Birth (required)
			• Terms & Conditions(required)
				• Username – user to use cell number registered with or email address
				• The system shall validate user inputs to ensure:
				  ○ All required fields are filled.
				  ○ The email address is in a valid format.
				  ○ The password meets security criteria (e.g., minimum of 8 characters, including uppercase, lowercase, digits, and special characters).
				• The system shall check if the provided email address is already registered.
				  ○ If the email is already in use, the system shall display a message prompting the user to log in or reset their password.
				• **Email Confirmation & Verification**
				  ○ The system shall send a confirmation email to the registered email address containing a verification link
				  ○ The system shall allow users to verify their email address through the link provided in the confirmation email.
				  ○ The system shall update the account status to verified upon successful verification.
				• Location

				o Activate applicable locations or other and user completes town of application
2.	Customer/User Registration	**M**	SFR-DM b. The system enforces users to agree to terms & conditions	o **Acceptance of Terms** o By registering for an account, the user agrees to abide by these Terms and Conditions. o **Eligibility** o The user must be at least 18 years old to register. o A pop up should appear with all terms and conditions before submitting registration details. o The platform should provide an OTP upon successful registration, this should only be valid for a limited time and changed as soon as it is used to log in for the first time o OTP to be shared both via SMS and email provided • System to provide data validation to avoid duplicate user registration and data integrity issues. **UI/UX Abilities (S)** • Provide a progress bar for filling out first-time user registration with clear steps outlining the different sections of information collected • Support auto-fill user information when filling out forms

3.	End User Profile Management	M	SFR-DM a. Ability to update Account settings and general settings thus Global Preferences - Time zone, Preferred Language, Preferred Currency (ZWG, USD)	g. The system shall require users to verify their identity (e.g., current password) before making sensitive changes
			SFR-DM b. Personal & Contact Information, Ability to add/edit all personal profile information	
			SFR-DM c. Login & Security Settings – Ability to set up security questions for password reset	
			SFR-DM d (i) Notification & Alerts – Ability to set preferred notification channel	
			SFR-DM d (ii) Provide account communication preferences with opt-in/out and frequency options	
			a. e.g. sign-up for a newsletter and set frequency options	
			b. e.g. receive notifications as text messages for defined activities	
			c. Ability to receive notifications as push messages in-app.	
			d. Ability to receive notifications as email messages	
			SFR-DM e. Privacy and Sharing – Ability to share the app to other users	
			SFR-DM f. Ability to manage (create, update) password policy rules.	
			SFR-DM g. Ability to manage account password i.e. change password	

4.	Login	M	SFR-DM a. End users should be able to log onto the system using credentials defined during the account creation phase via Web App SFR-DM a. (i) Mobile and Web App require the same user credentials with username and password that comply with the security policy. SFR-DM a. (ii) Login to an existing account on the system using username (email add or phone number) & password. SFR-DM a. (iii) Provide "remember me" auto-login functionality	
5.	Log Out	M	SFR-DM a The system should allow the customer to log out of the Web App. SFR-DM b. The system should also time out if the account is inactive for a defined period.	
6.	Password Reset	M	SFR-DM a. The system should allow for password reset and recover access to the account using two-factor authentication.	
7.	User Profile – Dashboard Management	M	SFR-DM a. The system shall provide a user-friendly dashboard displaying the user's account information, including: • Personal Details (Name, Email, Phone Number) • Active Loans and Assets • Account Balance • Transaction History • Push Notifications	• Once assets have been submitted for loan processing cannot be edited

No.	Requirement	Priority	Requirement Description	Business Rules

8.	**Access Roles & Permissions**	M	SFR-DM a. The system should allow for different access roles and permissions to be set depending on the requirements. The standard users will be as follows:
			
			• Super Admin (Vendor)
			
			• Admin (Pawn with limited rights)
			
			• Call Centre Support Agents (Ticket Management)
			
			• Loan Officer Processor
			
			• Loan Officer Approval
			
			• Management (analytics and reporting)
			
			SFR-DM b. The system should have an audit trail on all the activity of the user roles above
				• The call centre support agents with administrator rights should be able to do the following roles fully supported by the audit trail
				
				    a. Ability to view transaction history
				
				    b. Ability to block and unblock account
				
				    c. Ability to reset password

9.				

3.2 Asset Management

No.	Requirement	Priority	Requirement Description	Business Rules
1.	Adding New Assets	M	SFR-DM a. The system shall provide a form for users to submit new assets for pawn. SFR-DM b. The form shall include fields for: i. Asset Type – Drop-Down Menu	• Users shall receive a confirmation upon successful submission of a new asset. • The system shall also send a confirmation email with the asset details for the user's records

		- Options: Jewellery, Electronics, Vehicles, Collectibles, Furniture, ii. Detailed Description - A detailed description of the asset, including brand, model, and unique features. iii. Estimated Value (users may provide their own estimate) iv. Year of Purchase (Numeric field, applicable to certain asset types). The year the asset was purchased. This field shall be mandatory for vehicles and optional for other types. v. Condition (Dropdown menu) - Options: New, Like New, Used, Damaged vi. **Supporting Documents/Images** (File upload) - Users shall be allowed to upload images or documents related to the asset (e.g., receipts, warranties, photographs).	- Users must provide at least 4 images, covering angles which satisfy the view of the asset. These must be compressed according to policy standard **Additional Specific Fields** **Specific Fields for Motor Vehicles** For vehicles, additional fields shall be included to capture essential details: - Make (Text field) - The manufacturer of the vehicle (e.g., Toyota, Ford). - Model (Text field) - The specific model of the vehicle (e.g., Camry, F-150). - Vehicle Identification Number (CC Serial Number) (Text field) - A unique identifier for the vehicle, required for registration and valuation. - Mileage (Numeric field) - The current mileage of the vehicle. - Registration Number (Text field) - The vehicle's registration number, if applicable. - Colour (Text field) - The colour of the vehicle.

			• Engine Number (Text field)
			
			  ○ A unique identifier for the vehicle engine
			
			• Chassis Number (Text field)
			
			  ○ A unique identifier for the vehicle chasse
			
			Specific Fields for Other Asset Types
			
			• For other asset types, the fields may vary slightly:
			
			  ○ **Jewellery**
			
			    ▪ Material Type (Dropdown menu)
			
			      ▪ Options: Gold, Silver, Platinum, Other
			
			    ▪ Carat Weight (Numeric field)
			
			      ▪ For gemstones, if applicable.
			
			  ○ **Electronics**
			
			    • Brand (Text field)
			
			      ○ The manufacturer of the electronic device.
			
			    • Model Number/Serial Number (Text field)
			
			      ○ The specific model of the device.

				• Specifications (Text area)
				
				    ○ Key specifications (e.g., storage capacity, screen size).
				
				  ○ **Collectibles**
				
				    • Category (Dropdown menu)
				
				      ○ Options: Coins, Stamps, Art, Other
				
				    • Provenance (Text area)
				
				      ○ History or background of the collectible item.
				
				  ○ **Furniture**
				
				    • Material (Dropdown menu)
				
				      ○ Options: Wood, Metal, Upholstered, Other
				
				    • Dimensions (Text field)
				
				      ○ Size specifications (e.g., height, width, depth).

2.	View Submitted Asset	M	SFR-DM a. The system shall allow users to view a list of all assets they have submitted for pawn.
			
			SFR-DM b. Each asset entry shall display the following information:
			
			    • Asset ID
				• Estimate loan value is calculated as follows;
				  ○ For vehicles is 50% of the market value
				  ○ For other products its 30% of the market value
				• On final evaluation of the asset the pawn officer checks credit score of the customer on FCB (Financial Credit Bureau)

			• Description of the asset • Estimated Value • Status (e.g., Active, Redeemed, Auctioned) • Date Submitted • Estimated Market Value of the Asset (to be completed after user request market value evaluation) • Estimate loan value based on estimate market value evaluation (auto populated) • Final evaluation Value of the asset (will be populated when the user submits for approval after seeing estimated market value) • Final Loan awarded based on Final evaluation value (updated by approval)	
3	Edit Asset Information	M	SFR-DM a. The system shall allow users to edit existing asset details. SFR-DM b. Editable fields shall include: • Description • Estimated Value • Supporting documents (users can upload new images or documents)	Users must confirm changes before the system updates the asset information.

4	Market Value Asset Evaluation Request	M	SFR-DM a. The system shall allow users to request a professional market evaluation of their asset.	• The system must record date of assessment • The system shall notify users when the evaluation is complete and update the view submitted asset information
5	Remove Assets	M	SFR-DM a. The system shall allow users to remove assets from their account under certain conditions (e.g., if the asset is not currently under loan or auction or not satisfied by the estimate loan evaluation based on market value and user estimate).	• Users shall receive a confirmation prompt before the asset is permanently deleted. • If an asset is removed, the system shall provide a notification confirming the action.
6	Asset History	M	SFR-DM a. The system shall maintain an asset history log for each user, indicating: • Date of asset submission • Changes made to the asset (e.g., edits, removals) • Status changes (e.g., from Active to Redeemed)	• Users shall be able to view this history for transparency.
7	Final Value Asset Evaluation Request	M	SFR-DM a. The system shall allow users to request a professional final evaluation of their asset.	• The user must submit desired loan fee • The system must record date of assessment • The system shall notify users when the evaluation is complete and update the view submitted asset information • Once submitted users are not able to update the asset data • System must record Asset evaluation officer, comments and final value
8	Notifications for Asset Status	M	SFR-DM a. The system shall send notifications to users regarding any changes in the status of their assets, including:	

			o Successful submission confirmation o Updates on evaluation results o Alerts when assets are approaching auction or redemption deadlines	
9	Search and Filter Functionality	M	SFR-DM a. The system shall allow users to search and filter their assets based on: • Asset Type • Status • Date Submitted	• Users shall be able to sort assets in ascending or descending order based on selected criteria.
10	Asset Tracking	M	• SFR-DM a. The system shall track the status and location of each asset within the pawn business, including: o **Current Status** (Active, In Repair, Sold) o **Current Location** (Specific storage location) o **Loan Association** (Linking to any active loans if the asset is pawned)	This is viewed internally only
10	Integration with Loan Management	M	SFR-DM a. The system shall link assets to any active loans, allowing users to see which assets are currently pawned.	• Users should be able to view loan details associated with each asset directly from the asset management tab.
11	Responsive Design	M	SFR-DM a. The asset management interface shall be responsive, ensuring usability across various devices (desktop, tablet, mobile)	

No.	Requirement	Priority	Requirement Description	Business Rules
12	Inventory Auditing	M	SFR-DM a. The system shall facilitate regular inventory audits by allowing users to: • Generate inventory reports that list all assets. • Conduct physical inventory checks and update the system accordingly. • Track discrepancies between physical counts and system records.	
13	Asset Valuation Management	M	SFR-DM a. The system shall allow for the updating and management of asset valuations based on: • Market trends • Condition changes (e.g., wear and tear) • Professional appraisals	Users shall be able to submit requests for re-evaluation of assets.

3.3 Loan Management

No.	Requirement	Priority	Requirement Description	Business Rules
1.	Loan Creation Process	M	SFR-DM a. The system must facilitate the creation of loans when a user pawns an asset. SFR-DM b. Upon pawning an asset, the system shall: • Generate a loan automatically based on the asset's estimated value.	• Motor vehicle has the following charges

				• Assign a unique Loan ID and record relevant details like interest rate and payment terms	
2	Interest Calculation	M	SFR-DM a. The system shall calculate interest on loans based on: • **Loan Amount**: The principal amount borrowed (final value from asset evaluation). • **Interest Rate**: Specified at the time of loan creation. • **Loan Duration**: Duration for which the loan is active. SFR-DM b.The system shall display detailed interest calculations in the loan details section.	• Other consumables attract an interest rate of 2% for every 14 days & storage charges of 18% of the sum approved • Motor vehicles attract an interest rate of 4% for every 30 days & storage charges of 21% of the sum approved. Any period less than 15 days attracts an interest of 2% • A customer is given a grace period of 7 days before the asset is submitted to auction for selling	

2(a)	Loan Approval	M	The systems must be able to approve the loan as;
			
			    a. Physical asset evaluation conducted
			    b. Final evaluation (Text)
				• The approvers must have different levels;
				    o Pawn Officer (Conduct physical evaluation)
				    o Loan Officer (insert the final evaluation)
				• The final evaluation and physical asset evaluation status must appear on the customer profile	

3	View Active Loans	M	SFR-DM a. The system shall allow users to view a list of all active loans associated with pawned assets. SFR-DM b. Each loan entry shall display the following information: • **Loan ID** (Unique identifier for the loan)	a. When viewing loan details, the system shall provide comprehensive information about the pawned asset, including: • Asset Type (e.g., jewellery, electronics, vehicles) • Condition (Quality of the asset at the time of pawn)	

			• **Asset Description** (Brief description of the pawned asset)	• Final Value (Value determined at the time of pawn)
			• **Loan Amount** (Total amount borrowed against the asset)	• Date of Pawn (When the asset was pawned)
			• **Interest Rate** (Applicable interest rate for the loan)	
			• **Due Date** (Date by which the loan must be repaid)	
			• **Outstanding Balance** (Remaining amount to be paid)	
			• **Status** (Current state of the loan, e.g., Active, Overdue, Redeemed)	

4	Loan Details	M	SFR-DM a. Users shall be able to click on a loan entry to view detailed information about that loan, including:
			
			   o **Original Loan Amount**
			
			   o **Interest Calculation Method** (e.g., simple interest, compound interest)
			
			   o **Payment Schedule** (Breakdown of payments, including due dates and amounts)
			
			   o **Payment History** (List of all payments made, including dates and amounts)	

			o **Fees and Charges** (Any additional fees associated with the loan)	
5	Payment Management	M	SFR-DM a. Users shall have the option to make payments directly through their accounts, with clear pathways for: • Partial Payments: Users can pay a portion of the outstanding balance. • Full Payments: Users can pay off the entire loan amount. SFR-DM b. The system must be able to disburse loan to customers through applicable payment channels such as Mobile Money, Bank transfer etc.	• The system shall display real-time updates on the loan outstanding balance after each payment • The transfer from pawn account must be approved and conducted by a designated individual
6	Make Payments	M	SFR-DM a. The system shall provide users with the ability to make payments toward their loans directly through the platform. SFR-DM b. Users shall be able to: • Select a loan to pay off. • Enter the payment amount (partial or full). • Choose a payment method (e.g., bank transfer, credit/debit card, mobile money).	• The pawn officer must be able to select the most suitable payment method on a loan type on a case by case basis • Upon successful payment, the system shall update the outstanding balance and provide a confirmation receipt via a notification
7	Payment Reminders	M	SFR-DM a. The system shall send automated reminders to users regarding upcoming due dates for loan repayments.	• The reminders period shall be configurable based on the loan type and duration

8	Loan Renewal Options	M	SFR-DM a. The system shall allow users to request a renewal or extension of their loan term. SFR-DM b. Users shall be able to: • Submit a renewal request through the platform. • Indicate the desired extension period. • Review any new terms, including updated interest rates and fees.	
9	Loan Settlement	M	SFR-DM a. The system shall enable users to settle their loans early.	• Users shall be informed of any potential penalties or fees associated with early settlement. • Upon settlement, the system shall update the loan status to "Paid" and provide a confirmation.
10	Loan History	M	SFR-DM a. The system shall maintain a history of all loans, including: • Completed loans (paid off) • Defaulted loans	Users shall be able to view this history for reference and tracking purposes
11	Dispute Resolution	M	SFR-DM a. The system shall provide users with an option to dispute any issues related to their loans (e.g., incorrect charges, payment discrepancies).	Users can submit a dispute through a designated form, which will be reviewed by customer support.
12	Reporting and Analytics	M	SFR-DM a. The system shall provide users with insights into their loan management through analytics, including: • Total amount borrowed over time	

No.	Requirement	Priority	Requirement Description	Business Rules
			• Average interest rates • Payment performance (on-time vs. late payments)	
13	Customer Support Access	M	SFR-DM a. The system shall include easy access to customer support for any inquiries related to loan management. .	Users shall be able to initiate a chat or submit a support ticket directly from the loan management interface

3.4 Reporting & Analytics

No.	Requirement	Priority	Requirement Description	Business Rules
1.	Inventory Reports	M	SFR-DM a. **Asset Valuation Report**: Displays the total value of all assets in inventory, categorized by asset type and condition. SFR-DM b. **Asset Status Report**: Lists all assets along with their current status (Available, Pawned, Sold, etc.) and location within the shop.	
2	Loan Reports	M	SFR-DM a. **Active Loans Report**: Provides a summary of all active loans, including loan amounts, outstanding balances, due dates, and associated assets.	

			SFR-DM b. **Loan Performance Report**: Analyses loan repayment trends, including on-time vs. late payments, and default rates.	
3	Transaction Reports	M	SFR-DM a. **Sales Report**: Details all sales transactions, including item descriptions, sale prices, and dates of sale. SFR-DM b. **Pawn Transactions Report**: Summarizes all pawn transactions, including amounts borrowed, interest rates, and redemption rates.	
4	Customer Activity Reports	M	SFR-DM a. **Customer Engagement Report**: Tracks customer interactions, including frequency of visits, loans taken, and assets pawned. SFR-DM b. **Customer Demographics Report**: Analyses customer data to identify trends based on age, location, and other demographics.	
5	Market Analysis Reports	M	SFR-DM a. **Trending Assets Report**: Identifies which asset types are most frequently pawned or sold, helping to inform purchasing and inventory strategies. SFR-DM b. **Market Value Trends Report**: Analyses changes in market values for various asset types over time, assisting in asset valuation adjustments.	
6	Operational Efficiency Reports	M	SFR-DM a. **Staff Performance Report**: Evaluates staff productivity in managing loans and inventory, highlighting areas for improvement.	

No.	Requirement	Priority	Requirement Description	Business Rules
			SFR-DM b. **Audit Compliance Report**: Reviews inventory audit results, showing discrepancies and compliance with internal controls.	
7	Financial Reports	M	SFR-DM a. **Profit and Loss Report**: Summarizes revenues and expenses related to pawn and sale activities, providing insights into overall financial health. SFR-DM b. **Cash Flow Report**: Tracks cash inflow and outflow from pawn transactions, sales, and loan repayments	

3.5 Customer Support

No.	Requirement	Priority	Requirement Description	Business Rules
1.	Support Ticket System	M	SFR-DM a. The system shall allow customers to submit support tickets for inquiries or issues. SFR-DM b. Each ticket shall capture the following information: • **Ticket ID** (Unique identifier for tracking) • **Customer Information** (Name, contact details)	The customer shall receive a notification of Ticket ID once created

			• **Issue Category** (e.g., Loan Inquiry, Asset Valuation, Payment Issues) • **Description of the Issue** (Detailed explanation) • **Priority Level** (Low, Medium, High) • **Submission Date** (Timestamp of when the ticket was created)	
2	Ticket Tracking and Management	M	SFR-DM a. The system must allow customers to be able to track the status of their support tickets through their account dashboard. SFR-DM b. Support staff shall have a management interface to: • View, prioritize, and assign tickets to appropriate team members. • Add internal notes and update ticket statuses (Open, In Progress, Resolved, Closed).	Customers must receive a notification on the ticket change status
3	Knowledge Base	S	SFR-DM a. The system shall include a searchable knowledge base with articles and FAQs covering: • Common queries related to pawn transactions, loans, and inventory. • Step-by-step guides for using the pawn system.	Users shall be able to submit feedback on knowledge base articles to improve content.

			• Troubleshooting tips for common issues.	
4	Live Chat Support	M	SFR-DM a. The system shall offer a live chat feature allowing customers to communicate directly with support representatives during business hours.	Chat transcripts shall be saved and accessible to both customers and support staff for future reference
5	Email Support	M	SFR-DM a. The system shall provide an email support option where customers can send inquiries directly to the support team.	Automatically generated email responses shall confirm receipt of the inquiry and provide an estimated response time.
6	Phone Support	M	SFR-DM a. The module shall include a dedicated phone support line for urgent inquiries.	Call logs shall be maintained in the system for tracking and quality assurance.
7	Escalation Procedures	M	SFR-DM a. The system shall define clear escalation procedures for handling complex or unresolved issues.	Support staff shall have the ability to escalate tickets to higher-level management or specialized teams
8	Multi-Channel Support Integration	S	SFR-DM a. The module shall integrate support requests from multiple channels (e.g., web, email, chat, phone) into a unified ticketing system for streamlined management. SFR-DM b. Customers shall have the ability to switch between support channels seamlessly (e.g., starting in chat and escalating to a phone call).	

9	Reporting and Analytics	M	SFR-DM a. The system shall provide reporting features to analyse support performance, including: • Average response and resolution times. • Ticket volume trends over time. • Customer satisfaction ratings.	Reports shall help identify common issues and improve overall support efficiency.
10	Customer Feedback and Surveys	C	SFR-DM a. The system shall allow customers to provide feedback on their support experience through surveys. SFR-DM b. Feedback can include ratings (e.g., 1-5 stars) and open-ended comments. SFR-DM c. Reports shall be generated to analyse customer satisfaction and areas for improvement.	

4.0 Auction Module

This comprehensive breakdown of the Auction Module, including the requirement for a registration deposit fee, ensures that the pawn business can conduct auctions effectively while maintaining security and commitment from bidders

No.	Requirement	Priority	Requirement Description	Business Rules
1	Auction Creation	M	SFR-DM a. The system shall allow staff to create new auctions for pawned assets. SFR-DM b. Each auction shall include the following information: • **Auction ID** (Unique identifier for tracking) • **Asset Description** (Detailed description of the item being auctioned – these can be in categories) • **Starting Bid Amount** (Minimum bid to begin the auction) • **Reserve Price** (Optional minimum price that must be met for the item to be sold) • **Auction Start Date and Time** (When the auction begins) • **Auction End Date and Time** (When the auction closes) • **Auction Type** (e.g., Online, In-Person)	• Start Bid Amount is equivalent if the Final evaluation price of the asset
2	**Bidding Registration and Deposit Fee**	M	SFR-DM a. Users must register to participate in auctions, which requires:	

			• **Account Creation**: Users must provide personal information (name, email, contact number).
			
			• **Deposit Fee**: Users must pay a deposit fee upon registration to participate in bidding. This fee shall:
			
			   o Be refundable upon request if the user does not win any auctions.
			
			   o Be forfeited if the user wins an auction and fails to complete the purchase.
			
			• **Payment Processing**: The system shall facilitate deposit fee payments through various methods (credit/debit cards, bank transfers, mobile money transfer).	

2.a	Auction Terms and Conditions	**M**	SFR-DM a. The system shall display clear terms and conditions for participating in auctions, including: • Bidding rules. • Payment policies. • Return and refund policies.	
3	Asset Management	**M**	SFR-DM a. The system shall allow staff to link specific pawned assets to auctions.	• System to automatically transfer a defaulted linked asset to auction in correct category • Staff shall be able to view and select assets or remove assets from the inventory to include in upcoming auctions

4	Bid Management	M	SFR-DM a. The system shall enable registered users to place bids on auction items. SFR-DM b. Features shall include: - **Real-Time Bidding**: Updates on current bid amounts displayed in real-time. - **Bid History**: View past bids for transparency. - **Automatic Bidding**: Option for users to set maximum bids, allowing the system to bid automatically on their behalf up to that limit.	

5	Notification System	M	SFR-DM a. The system shall send notifications to bidders for key auction events, including:
			
			    o Auction start and end reminders.
			    o Notifications when they are outbid.
			    o Confirmation of successful bids.	

6	Auction Status Tracking	M	SFR-DM a. The system shall allow users to track the status of current auctions, including: - Current highest bid. - Time remaining in the auction. - Number of active bidders	

7	Payment Processing	M	SFR-DM a. Upon the conclusion of an auction, the system shall facilitate payment processing for winning bidders. SFR-DM b. Payment methods shall include credit/debit cards, bank transfers, and other accepted forms of payment. SFR-DM c. The system shall generate invoices for successful bids.	
8	Post-Auction Management	M	SFR-DM a. After an auction ends, the system shall: • Update inventory status to reflect the sale of auctioned items. • Notify sellers and winning bidders of the auction outcome. • Provide options for shipping or pickup of auctioned items.	
9	Reporting and Analytics	M	SFR-DM a. The module shall include reporting features to analyse auction performance, including: • Total revenue generated from auctions. • Average bid amounts and participation rates. • Trends in asset types sold through auctions.	
10	User Registration and Access Control	M	SFR-DM a. The system shall require users to register and create accounts to participate in auctions.	

			SFR-DM b. Access control shall ensure that only registered users can place bids.	
			SFR-DM c. Different access levels may include:	
			• Super Admin (Vendor)	
			• Admin (full management of auctions)	
			• Staff (creating and managing auctions)	
			• Bidders (placing bids and tracking auctions)	
11	User Feedback and Ratings	M	SFR-DM a. Post-auction, users shall have the ability to leave feedback or ratings for their auction experience.	Feedback shall be used to improve future auction processes.
12	Integration with Inventory Management	M	SFR-DM a. The auction module shall be integrated with the inventory management system to ensure real-time updates on asset availability and status.	
			SFR-DM b. Assets not sold in auctions shall be returned to inventory for future selling opportunities.	

5.0 Non-Functional Requirements

NB: Requirement Priority (M – Must have, S – Should have, C – Could have, W – Wont have this time)

Req No.	Requirement	Description	Priority
1	Performance	Refresh time must be less than 20 seconds allowing 50 TPS.	M
		The system must handle increases/decreases in the workload seamlessly	M
2	Availability	The system must be available 99.9% of the time	M
		The system must be available 24 hours a day	M
3	Scalability	The system must be upgradeable with minimum impact on the performance	M
		The system must allow for the addition of more modules after deployment as required by the business.	M
4	Usability	The system must be user-friendly with simple process flows.	M
		The system should allow for business self-service	M
5	Reliability & Maintenance	The system must have a minimum failure rate of less than 1%. Recovery should be seamless through system backups	M
		The system must have a way to flag failed transactions	M

		The system must have redundancy	M
		The system must have the ability for routine and/or corrective maintenance	M
6	Interoperability	The system should have the ability to interface with other systems/platforms seamlessly	M

5.1 Security Requirements

1. **WEB URL OR WEB APPLICATION/PORTAL**

   a. **Website Hardening**

Purpose	Syntax
Prevent potential online attacks	Ensure communication to and from web URL is encrypted, systems and plugins used are up to date

   b. **Captcha Engine**

Purpose	Syntax
Prevent dictionary attacks	Implement captcha engine for authentication on all authentication pages

   c. **SSL Certificates**

Purpose	Syntax
Prevent eavesdropping of information	Implement an SSL certificate and ensure the intermediate certificate is applied

d. **Multifactor authentication**

Purpose	Syntax
Prevent remote attacks and most threat actors	Use two or more credentials to authenticate e.g. passwords, hardware tokens, numerical codes biometrics, time and location

e. **Security Headers**

Header	Purpose	Syntax
X-Frame-Options	Prevent clickjacking attack	X-Frame-Options: SAMEORIGIN
X-XSS-Protection	Prevent cross-site scripting attack	X-XSS-Protection: 1; mode=block
X-Content-Type-Options	Block content type sniffing	Content-Security-Policy:<policy-directive>; <policy-directive>
Strict-Transport-Security	Prevent man-in-the-middle attack	Strict-Transport-Security: max-age=<expire-time>
"X-Powered-By" HTTP Response Header Field	Prevent attackers identifying other frameworks/components and their vulnerabilities	Suppress "X-Powered-By" headers

f. **Content Security Policy**

Purpose	Syntax
Prevent content injection vulnerabilities	Recommend adding CSP directives: script-src, object-src, base-uri, frame-src

g. **Website Architecture**

Header	Purpose	Syntax
Reverse Proxy	Hides topology and characteristics of backend servers with no direct access to internet access	Implement a reverse proxy and backend server

2. <u>**MOBILE APPLICATION**</u>

a. **Safe Files Deletion**

Purpose	Syntax
Prevent deleted data to be recovered	Ensure application empties files before calling file.delete()

b. **Weak Random Number Generator**

Purpose	Syntax
Prevent confidentiality and integrity vulnerabilities	Use strong random number generators

c. **Strong Hash Algorithms**

Purpose	Syntax
Prevent attacks like man-in-the-middle, password attacks etc	Use MD5, SHA256, SHA512, PBKDF2 etc

d. **Unsafe TrustManager Implementation**

Purpose	Syntax
Prevent trust of all server certificates, regardless who signed it	Change code in checkServerTrusted method to raise CertificateException or illegalArgumentException if certificate does not meets expectations

e. **Missing Certificate Pining**

Purpose	Syntax
Prevent man-in-the-middle attacks	Implement 'HttpsURLConnection' to only trust a certain set of CAs

f. **Debugging Information Provision**

Purpose	Syntax
Prevent leakage of logs collected	Ensure android:debuggable attribute is set to false in the AndroidManifest.xml

3. **SERVERS (LINUX AND WINDOWS)**

a. **Patch Update**

Purpose	Syntax
Fixes security vulnerabilities and other bugs	Operating systems to be updated to the latest patch available

b. **Access Controls**

Purpose	Syntax
Provide action accountability to any changes that would have been made	Personalized accounts for administrators, role based controls to be implemented and root access should be restricted

c. **Default Ports**

Purpose	Syntax
Prevent compromises by automated attacks	Defaults ports should not be used for e.g. MySQL

d. **Closure of Insecure and Superfluous ports**

Header	Purpose	Syntax
HTTP port open	Prevent data transfer in clear text	Use HTTPS protocol
FTP port open	Prevent data transfer in clear text	Use Secure FTP (SFTP) protocol
Telnet	Prevent data transfer in clear text	Use Secure Shell (SSH) protocol

4. **Audit and monitoring**

a. **Security Monitoring**

Purpose	Syntax
To monitor any attacks detected and prevented to the servers	Security monitoring using real-time monitoring tools should be implemented by the Security team

b. **Security Policy adherence**

Header	Purpose	Syntax

Password Policy	Prevent hackers to gain access to systems	Pass Max Days : 42 Pass Min Days: 5 Password Length: 8 characters

c.   **Audit Trail**

Purpose	Syntax
Provide security-relevant chronological record	Provide reporting and records of the system of activities that affected any operations, procedures or events

5.2 Testing, Training & Documentation Requirements

5.2.1 Testing Requirements

5.2.2 User Acceptance Testing

The acceptance criteria will be based on both functional and non-functional requirements. The detailed Acceptance criteria will be documented and signed off separately.

5.2.3 Functional Testing

QA to confirm the functional and non-functional test to meet requirements.

5.2.4 Quality Assessments

The quality assurance team will test the system based on the defined requirements. There is a need for both positive and negative testing.

5.2.5 Regression testing

There is a need for regression testing on the system for every integration.

5.2.6 Training Requirements

There is need to train users at the following levels:

- Customer end user

- System users – for each role specified

- Support users – backend support

5.2.7 Documentation Requirements

- Terms and Conditions
- Acceptance Criteria
- Customer SMS/Email/Popup Notifications

5.3 Support Requirements

The requirements below specify system support functionality which will enable the fully fledged support of the system.

5.3.1 Support Catalogue

System should have a clear service support catalogue to be configured in the service desk system with specific service level agreements for each issue category. The catalogue is defined together with email addresses authorized to automatically log queries when they send emails.

5.3.2 Support Solution Architecture

During the solution handover to support an end-to-end solution architecture diagram should be presented to the support team way before launch of the system. The diagram should clearly show the following elements of the solution:

- Hardware specifications.

- Software specifications.

- Integration specifications.

- Server identities.

- Network topology.

- High Availability and Disaster Recovery structure.

- Backup requirements.

5.3.4 Support Portal

The system should have a support portal which is usable at the following levels of support:

1. Front-line or customer-facing team

   - Support portal should allow the front-line or customer-facing team to troubleshoot a specific transaction and have visibility of the end-to-end life cycle in order to gain an understanding of a possible failure point.

   - Portal access should be read-only and should allow transaction resubmission and transaction rewind functions.

   - Initiation of transaction reversal should also be possible via the portal for the front-line team.

2. Support Engineers

   The support portal should provide a troubleshooting function for the support team to have end-to-end visibility of the transaction's life cycle. Support engineers should be empowered to process some transaction reversals after approval, transaction rewind, transaction resubmission and transaction forward.

3. Support Reporting

   The support portal should have reporting capabilities for at least the following reports:

   a. Transactions listing for a specific account at a specific period with clear status.

   b. Transactions listing filtered by Date, Status, Type etc

   c. Exceptions report showing anomalies e.g. reconciliation errors etc

   d. Transaction logs

5.4 Integration Requirements

No.	Requirement	Priority	Requirement Description	Business Rules
1	Customer Registration – General Office Integration	M	SFR-DM a. The system must integrate to Registrar General Office to validate the national ID	
2	Vehicle Verification	M	SFR-DM a. The system must integrate to Vehicle Theft Squad to check the authenticity of the vehicle	
3	Credit Rating Score	M	SFR-DM a. The system must integrate to FCB to check the credit worthiness' of the potential customer	
4	Notification Engine	M	SFR-DM a. The system must integrate to Notification Engine to deliver real time notifications	
ERP Integration Requirements				
5	Data Synchronization	M	SFR-DM a. The system shall automatically synchronize data between the pawn system and the ERP, including: • Customer information • Inventory details (pawned items) • Loan agreements • Auction results	
6	**Financial Management**	M	SFR-DM a. The ERP integration shall provide functionalities for:	

			• General ledger updates for pawn transactions. • Automated invoicing for loans and auction sales. • Real-time financial reporting, including profit and loss statements.	
7	**Inventory Management**	M	SFR-DM a. The integration shall enable: • Centralized tracking of pawned items across all locations. • Automatic updates to inventory levels in the ERP system. • Reporting on asset valuations and turnover rates	
8	**Customer Relationship Management (CRM)**	M	SFR-DM a. The system shall link customer data to the ERP's CRM module for: • Enhanced customer insights and segmentation. • Tracking customer interactions and transaction history. • Targeted marketing campaigns based on customer behaviour.	
9	**Compliance and Reporting**	M	SFR-DM a. The integration shall ensure compliance with regulatory requirements by:	

			• Automating record-keeping for pawn transactions. • Generating reports for regulatory bodies, including loan documentation and auction results

10	**Performance Metrics**	M	SFR-DM a. The ERP integration shall provide dashboards and reporting tools for:
			
			  ○ Monitoring key performance indicators (KPIs) related to sales, loans, and auctions.
			
			  ○ Analysing trends in customer behaviour and inventory turnover.

11	**Workflow Automation**	M	SFR-DM a. The system shall automate workflows related to: • Loan processing and approvals. • Auction management and notifications. • Inventory updates and transfers between locations
12	**Communication and Notifications**	M	SFR-DM a. The integration shall facilitate communication by: • Sending automated notifications for loan due dates, auction reminders, and inventory alerts.

			• Providing a platform for staff to communicate internally through the ERP system.	
13	**Scalability and Flexibility**	**M**	SFR-DM a. The system shall support scalability to accommodate: • Additional locations or franchises in the future. • Integration with other business systems as needed	

6.0 Conclusion

In conclusion, the integrated system for a pawn business encompasses robust modules for auction management and loan management, creating a streamlined and efficient platform for both customers and staff. The Auction Module is designed to facilitate transparent bidding processes, requiring registration with a deposit fee to ensure commitment from bidders. Features such as real-time bidding, asset management, and comprehensive reporting enhance user engagement and operational efficiency. Simultaneously, the Loan Management System provides an organized framework for tracking loans, repayments, and customer interactions, ensuring compliance and financial clarity.

Together, these modules optimize the pawn business's operations, allowing for effective asset valuation and management while fostering customer satisfaction and trust. With the ability to analyse auction performance and loan trends, the system empowers the business to make informed decisions, ultimately reinforcing its commitment to delivering a seamless and rewarding experience for all participants. This cohesive approach not only maximizes asset value but also strengthens customer relationships, positioning the pawn business for sustained success in a competitive market.