

Deliverable 2

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➤ Requirement 1: Real-Time Bidding System

Title :	Real-time bidding
Unique id:	FR-001
Description :	A live, engaged bidding system that provides users with real-time bid status and auction updates
Actors/Stakeholders	Art buyers, art sellers, and auctioneer
Priority :	High, Critical for auction engagement and functionality
Pre-Conditions:	Users must be logged in and authenticated
Post-Conditions:	The highest bid is recorded and displayed in real-time
Quality Attributes:	responsiveness, reliability
Validation Method:	Live testing with multiple users to verify real-time updates.

➤ Requirement 2: Secure Authentication

Title :	Secure Authentication
Unique id:	FR-002
Description :	A secure login and authentication system ensures only registered users can access the bidding and gallery features.
Actors/Stakeholders	Art buyers, art sellers, auctioneer, system administrators
Priority :	High, critical for user data protection and system access control

Pre-Conditions:	Users must have registered accounts and provide valid credentials.
Post-Conditions:	Only authenticated users can access their respective dashboards and participate in bidding.
Quality Attributes:	Security, reliability
Validation Method:	Security testing on password strength, two-factor authentication, and protection against common threats like brute force attacks.

➤ Requirement 3:Artwork Valuation

Title :	Artwork Valuation
Unique id:	FR-003
Description :	A feature to determine and display the estimated value of artwork based on factors like artist reputation, historical significance, and market trends.
Actors/Stakeholders	Art sellers, art buyers, auctioneer
Priority :	Medium enhances buyer knowledge and transparency in bidding.
Pre-Conditions:	Artwork must be listed with relevant data (e.g., artist details, creation date)
Post-Conditions:	Evaluation is displayed alongside the artwork, providing potential buyers with pricing guidance.
Quality Attributes:	Accuracy, transparency
Validation Method:	Verification through expert reviews and comparison with current market prices for similar artwork.

➤ **Requirement 4: Personalized Notifications**

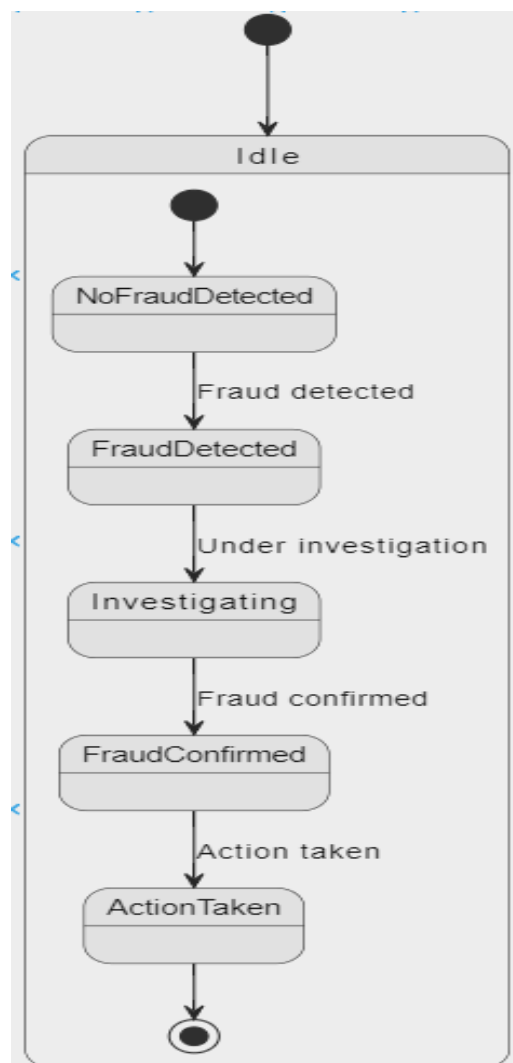
Title :	Personalized Notifications
Unique id:	FR-004
Description :	A system to provide personalized notifications to users about auction events, bid status updates, and new artwork listings based on their preferences and bidding history.
Actors/Stakeholders	Art buyers, art sellers, auctioneer
Priority :	High, essential for user engagement and timely updates.
Pre-Conditions:	Users must be registered and have specified notification preferences.
Post-Conditions:	Users receive real-time notifications relevant to their activity and interests.
Quality Attributes:	Responsiveness, relevance
Validation Method:	Testing with users to ensure notifications are received accurately and on time-based on their set preferences

❖ **Behavioral requirements:**

➤ **Requirement 5: Fraud Detection and Prevention**

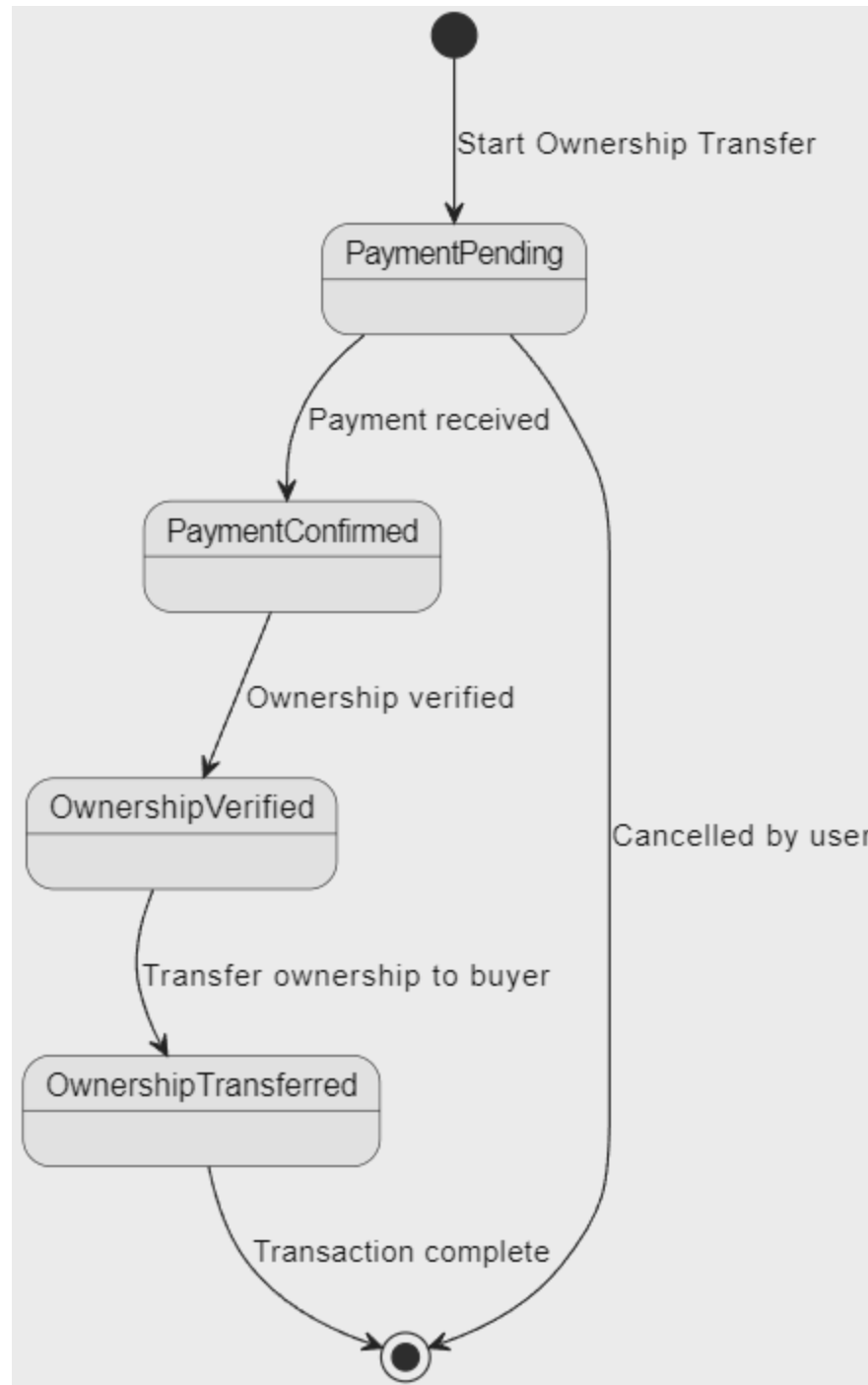
Title :	Fraud Detection and Prevention
Unique id:	FR-005
Description :	A system to detect and prevent fraudulent activities, such as fake bids, unauthorized access, or manipulation of auction outcomes, to maintain trust and integrity within the platform.
Actors/Stakeholders	Art buyers, art sellers, auctioneer, system admins

Priority :	High, critical for maintaining platform credibility and user trust.
Pre-Conditions:	Continuous monitoring mechanisms must be in place, and users should be authenticated.
Post-Conditions:	Suspicious activities are flagged, and corrective actions are taken to mitigate fraud.
Quality Attributes:	Security, reliability
Validation Method:	Implement regular audits, monitoring logs, and security checks to identify and address fraudulent behavior.



➤ **Requirement 6: Ownership Transfer Post-transaction**

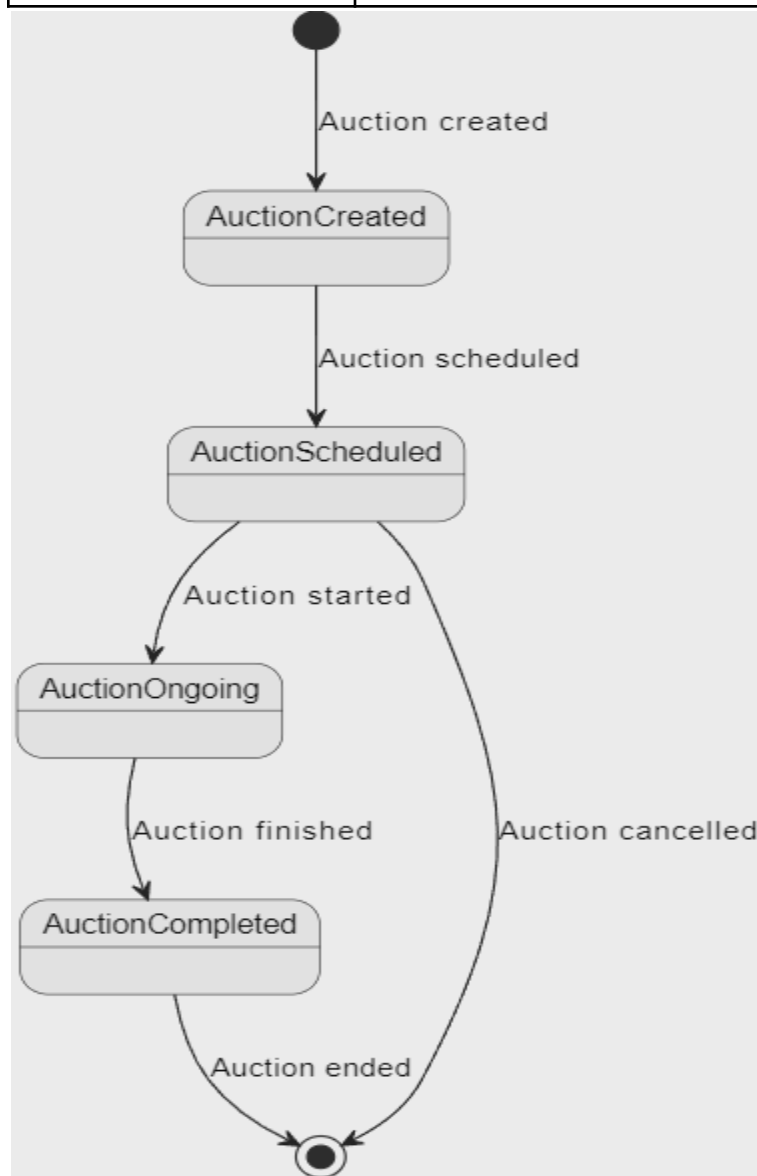
Title :	Ownership Transfer Post-Transaction
Unique id:	FR-006
Description :	A system to document the transfer of ownership to the winning bidder once payment is confirmed, ensuring secure and legitimate transfer of artwork or item ownership.
Actors/Stakeholders	Art buyers, art sellers, auctioneer, system admins
Priority :	High, essential for completion of the auction process and buyer satisfaction.
Pre-Conditions:	Payment must be confirmed and verified by the system.
Post-Conditions:	The new owner is recorded in the system, and an ownership certificate or digital proof is issued to the buyer.
Quality Attributes:	Security, accuracy
Validation Method:	Testing with completed transactions to verify accurate ownership updates and documentation delivery to buyers.



➤ **Requirement 7: Auction Calendar**

Title :	Upcoming auction Calendar
Unique id:	BR-003

Description :	Displays a schedule of upcoming auctions to help users plan participation
Actors/Stakeholders	Art buyers, art sellers
Priority :	Medium -enhances user experience
Pre-Conditions:	Sellers set auction dates
Post-Conditions:	The calendar is updated with upcoming events
Quality Attributes:	Usability, accessibility
Validation Method:	Functional testing with event scheduling



❖ Data requirements:

➤ Requirement 8: User Profile Management

Title :	User profile and account data management
Unique id:	DR-001
Description :	Stores and manages buyers' and sellers profiles, bids, and purchase history
Actors/Stakeholders	Art buyers, art sellers
Priority :	High critical for account functionality
Pre-Conditions:	Users must be registered
Post-Conditions:	Profile data is accessible and editable by users
Quality Attributes:	Data integrity, privacy
Validation Method:	Data validation checks, periodic data audits

➤ Requirement 9: Artwork Data Storage

Title :	Artwork Data Storage
Unique id:	FR-009
Description :	A secure and scalable storage solution to manage artwork data, including images, descriptions, artist information, and valuation details.
Actors/Stakeholders	Art sellers, art buyers, system admins
Priority :	High, necessary for reliable data management and retrieval.
Pre-Conditions:	Art sellers must provide complete and accurate data upon listing their artwork.
Post-Conditions:	Artwork data is securely stored and can be efficiently retrieved for display, valuation, and bidding purposes.

Quality Attributes:	Scalability, security, data integrity
Validation Method:	Data integrity testing and performance testing under various load conditions to ensure efficient data retrieval and secure storage.

➤ Requirement 10: Encrypted Payment Data

Title :	Encrypted Payment Data
Unique id:	FR-010
Description :	A secure payment processing feature that encrypts sensitive payment data to protect user information during transactions.
Actors/Stakeholders	Art buyers, system admins
Priority :	High, critical for securing financial transactions and user trust
Pre-Conditions:	User payment information is collected and prepared for processing.
Post-Conditions:	Payment data is encrypted and securely transmitted to the payment gateway for transaction completion.
Quality Attributes:	Security, confidentiality
Validation Method:	Security testing including data encryption validation etc

❖ Traceability Matrix:

Requirement ID	Related Requirement IDs	Business Goals/User Needs
FR-001	FR-002, Br-001	Provides real-time bidding for engaging user experience

FR-002	DR-003	Ensures securer user authentication to protect user data
FR-003	FR-001	Helps users make informed decisions by providing artwork valuations
FR-004	BR-003	Increases user engagement through timely notifications
BR-001	FR-002,DR-003	Prevent fraudulent activities and ensure security
BR-002	DR-002	Secure ownership transfer post-payment
BR-003	FR-004	Keeps user informed of upcoming auctions
DR-001	FR-002	Manages and protects user profile information
DR-002	BR-002	Stores data for artwork listing securely
DR-003	FR-002,BR-001	Encrypts payment data for transaction security

❖ Glossary:

FR	Functional requirement
BR	Behavioral requirement
DR	Data requirement