Software Requirements Specification (SRS)

1. Introduction

This document presents the Software Requirements Specification for describes Art Bits, a web-based auction platform designed to connect contemporary/other artists with global collectors. The application lets artists upload and lists their artworks as timed auctions or if no bids have been placed, a buyer may click Buy Now to purchase immediately. while registered users browse, bid in real time, or purchase outright. Secure payment processing, and shipment tracking are integrated to protect both parties. Administrators oversee artwork approvals, auction scheduling, user activity, and financial settlements through a comprehensive dashboard.

2. Overall Description

2.1 System Overview

The Art Bits application is divided into two key modules: Admin and User.

* ⬜ **Users** can create an account or sign in, browse all live artworks, place bids in real time, add items to a watch-list, press **Buy Now** to purchase instantly when available, and track their winning orders, payments, and shipments from a personal dashboard.

⬜ **Artists** can upgrade their account, upload artwork images and details, set reserve or Buy Now prices and auction duration, monitor bidding on their own lots, and view payout status once a sale is completed.

⬜ **Admins** can review and approve new artwork submissions, start or stop auctions, manage bids and payment exceptions, edit user and artist accounts, and oversee sales, escrow releases, and analytics through a dedicated back-office dashboard.

3. Functional Modules

3.1 Admin Module

⬜ Secure login.

⬜ Approve, edit, or reject artwork submissions awaiting review.

⬜ Open, pause, or close live auctions, relist unsold lots.

⬜ View, or refund payments.

⬜ Manage user and artist accounts, reset passwords, and set role permissions.

3.2 Artist Module

⬛ Register or Login.

⬛ Upload high-resolution images, enter artwork details, choose auction length, reserve price, and optional **Buy Now** price.

⬛ Track live bidding on personal lots—including real-time high-bid, watchers, and time remaining.

⬛ View payout statements and shipment status for each completed sale.

3.2 User Module

⬛ Register and log in with secure JWT authentication.

⬛ Browse and search all live or upcoming auctions; filter by artist, medium, or price.

⬛ Place real-time bids, set proxy (maximum) bids, or click **Buy Now** when available.

⬛ Maintain a watch-list and receive push / e-mail out-bid alerts.

⬛ Pay winning invoices through integrated gateway; track shipping and delivery.

4. System Features

* User Authentication–Secure registration and login using JWT.

* Role-Based Access Control – Distinct permission sets for Admin, Artist, and Buyer roles.

* Artwork Listing Module – Artists can upload images, enter details, set reserve and Buy Now prices, and choose auction duration.

* Auction Engine – Timed auctions with real-time bidding and live countdown updates .

* Direct-Purchase Option – Buy *Now* button lets a buyer close the sale instantly at a fixed price if no bids are yet placed.

* Admin Dashboard – Central panel to approve listings, manage auctions, handle disputes, oversee users, and view sales analytics.

* Responsive UI – Mobile-friendly React interface with smooth transitions

5. Technologies Used

6. Non-Functional Requirements
* MongoDB

- Express.js
- React.js
- Node.js
- GSAP(Animations)
- Bootstrap(UI Liabraries)

6. Non-Functional Requirements

* Security: Enforce HTTPS and JWT-based session handling for all interactions.

* Performance: Application will handle 100+ concurrent users with optimized performance.

* Scalability: Modular design allows easy expansion of features and integration of third-party services.

* Usability: Interface must be intuitive, clean, and accessible on both desktop and mobile devices.

* Reliability: The system must ensure data integrity and handle errors gracefully to prevent loss of user actions or records.