Design And Development Of Online Car Bidding System

A project report was submitted to the National University in partial fulfillment of the requirement for the degree of B.Sc. (Hon's) in Computer Science and Engineering.

Submitted By

Registration Number: 19502004691

Session: 2019-20

Department of CSE

Institute of Science and Technology (IST)

National University, Bangladesh

May,2025

DECLARATION

I hereby declare that, I have completed the work of this project under the supervision of **MD. Shamim Hasan** , lecturer of Computer Science and Engineering (CSE), Institute of Science and Technology (IST), affiliated under the National University of Bangladesh- I also declare that neither this thesis nor any part of this has been submitted elsewhere for the award any degree-

Signature

_____

Watan Rahman

Registration No: 10502004691

Session: 2019-20

APPROVAL

This project **“Online Car Bidding System”** submitted to the department of Computer Science and Engineering (CSE) from Institute of Science and Technology (IST) under National University is absolute fulfillment of the requirement for the degree of B-Sc- (Hon’s) in Computer Science and Engineering (CSE).

Signature of Internal Examiner

_____

Md.Shamim Hasan (Supervisor)

Lecturer

Department of CSE

Institute of Science and Technology

Signature of External Examiner

_____

ACKNOWLEDGMENT

First and foremost, I would like to express my deepest gratitude to **Md.Shamim Hasan**, my respected supervisor, for his invaluable guidance, continuous support, and insightful suggestions throughout this project- His expertise and encouragement helped me overcome challenges and complete this work successfully. I am also sincerely thankful to the **Institute of Science and Technology (IST)** and the Department of Computer Science and Engineering (CSE) for providing me with the necessary resources, facilities, and a conducive learning environment to carry out this project

ABSTRACT

The **"Online Car Bidding System"** is a digital marketplace that enables real-time car auctions via smartphones or computers, making car trading transparent, competitive, and accessible. It connects buyers, sellers, and dealers on a single platform, promoting fair pricing through bidding and allowing buyers to explore vehicles and sellers to reach wider audiences. The system helps dealers optimize inventories, empowers small-scale sellers, and ensures trust via a feedback system. By eliminating middlemen, it creates a dynamic, user-driven marketplace, with future upgrades like AI price predictions, virtual test drives, and secure payments to enhance the experience.

TABLE OF CONTENTS

Preliminary Pages

Declaration ---------- i
Approval ---------- ii
Acknowledgement ---------- iii
Abstract ---------- iv

Chapter 1: Introduction

1.1 Introduction ---------- 1
1.2 Current Situation of Car Auction ---------- 1
1.3 Objectives ---------- 2
1.4 Motivation ---------- 2
1.5 Dissertation Organization ---------- 2

Chapter 2: Literature Review

2.1 Introduction ---------- 3
2.2 Current Market System ---------- 3
2.3 Current Car Bidding System ---------- 3
2.4 Present Car Bidding Shops ---------- 4
2.5 Limitations of Current Car Bidding System ---------- 4
2.6 Summary ---------- 4

Chapter 3: Existing System

3.1 Introduction ---------- 5
3.2 Aim of the Project ---------- 5
3.3 Advantages of Online Car Bidding System ---------- 5
3.4 Advantages for Users ---------- 6
3.5 Summary ---------- 6

Chapter 4: Proposed System Design

4.1 Introduction ----------7
4.2 Use-Case Diagrams ---------- 7
4.3 Data Flow Diagram (DFD) ---------- 8
4.3-1 Level-0 DFD ---------- 8
4.3-2 Level-1 DFD ---------- 9
4.3-3 Level-2 DFD ---------- 10
4.4 Entity Relationship Diagram (ERD) ---------- 11
4.5 Summary ---------- 11

CHAPTER - 1

INTRODUCTION

1.1 Introduction:

In recent years, the integration of digital technology into traditional markets has transformed various industries, including automobile trading. Bangladesh, like many other developing countries, is experiencing rapid growth in internet usage and e-commerce platforms. However, car auctions in the country are still primarily conducted through physical attendance, which can be inefficient, time-consuming, and often lacks transparency. Inspired by the success of online car auction systems in countries like Japan, there is a clear opportunity to implement a similar platform in Bangladesh.

An Online Car Bidding System aims to bridge the gap between traditional car auctions and modern e-commerce solutions by allowing users—including individual buyers, sellers, and licensed dealers—to participate in real-time, transparent vehicle auctions via the internet. This digital platform will offer users the ability to list vehicles, inspect car details through virtual reports, and place secure bids without being physically present. It will also reduce administrative overhead, increase accessibility, and ensure fair market competition.

1.2 Current Situation of Car Auctions in Bangladesh:

Traditional car auctions in Bangladesh are often limited to urban centers and typically require physical presence, which excludes a large segment of the population, especially those living in rural areas. These auctions are also susceptible to manipulation, limited competition, and a lack of transparent vehicle histories. Additionally, there are no centralized digital platforms where buyers and sellers can meet virtually, compare prices, or verify vehicle authenticity efficiently. This outdated system restricts market access and inhibits the fair exchange of vehicles.

1.3 Objectives:

The primary objective of the Online Car Bidding System is to modernize the car auction process in Bangladesh by introducing a transparent, accessible, and efficient digital platform. Specific objectives include:

- Creating an inclusive system for both licensed dealers and the general public.
- Providing detailed vehicle inspection reports and high-resolution images.
- Enabling real-time, competitive bidding from anywhere in the country.
- Ensuring secure transactions and minimizing fraudulent activities.
- Reducing operational costs for sellers and buyers.
- Enhancing buyer confidence and seller reach.

1.4 Motivation:

The motivation for this project stems from the inefficiencies and limitations observed in Bangladesh's current vehicle trading ecosystem. Many individuals, especially those outside major cities, face challenges in accessing trustworthy car listings or participating in auctions. With the global shift toward digital platforms and the proven success of online car auctions abroad, this project is driven by the need to bring similar benefits—efficiency, transparency, and convenience—to local consumers. It also aligns with national goals of digital transformation and economic modernization.

1.5 Dissertation Organization:

This chapter outlines the structure and organization of the dissertation, providing a clear roadmap of each section and its contribution to the project.

CHAPTER - 2

LITERATURE REVIEW

2.1 Introduction:

The traditional car market in Bangladesh relies on direct sales through dealers and private sellers, with limited price transparency. Buyers and sellers face challenges like trust issues, uncertain vehicle conditions, and unfair pricing. While some online platforms exist, they lack proper bidding systems, leaving room for a structured online auction approach to create fair competition and better deals for all users.

2.2 Current Market System

In Bangladesh, most car sales happen through local dealers or face-to-face deals. There is no proper auction system for used cars. Some online sites try to sell cars, but they are not well organized. Buyers and sellers struggle with trust issues, unclear prices, and limited options. A good online auction system could make buying and selling cars easier, fairer, and more open to everyone.

2.3 Current Car Bidding System

In Bangladesh, car sales mainly happen through direct dealer negotiations or online listings with fixed prices, lacking a proper auction system. Current methods face issues like price transparency, trust gaps, and limited buyer-seller interaction. An organized online bidding platform could create fair pricing through competition while ensuring secure transactions for both parties.

2.4 Present Car Bidding Shops

1.International Car Bidding Platforms

- Copart (USA/Global)
- IAAI (USA/Global)
- Manheim (Global)
- eBay Motors (Global)
- SBT Japan (Japan/Asia)

2.Local (Bangladesh) Car Bidding Options

- Bikroy Auto (classified listings, limited bidding)
- Pickaboo (occasional auction-style sales)
- Facebook Marketplace groups (informal bidding)
- Local dealer auctions (private/closed events)
- Car showroom "bidding" (negotiation-based)

2.5 Limitations of Current Car Bidding System

- Most sales happen through direct negotiation, not competitive bidding
- Few websites offer real bidding features
- No verification of car condition or seller reliability
- Buyers can't see fair market prices
- No secure payment system for auctions
- Only local buyers can join, no nationwide access
- If problems occur, no system for complaints/refunds
- Most bidding done in person or by phone, not automated

2.6 Summary

Bangladesh's car market lacks proper auction systems, relying on direct sales and informal deals. Current platforms have no real bidding features, leading to trust issues, unclear pricing, and payment risks. A structured online auction system is needed.

CHAPTER - 3

EXISTING SYSTEM

3.1 Introduction

Our car bidding system is designed to be user-friendly and secure, making it easy for buyers and sellers to participate in online auctions. The platform ensures safe transactions while protecting user data. Sellers can list vehicles effortlessly, and buyers can bid confidently with transparent pricing. The system helps sellers understand market demand while giving buyers access to quality vehicles at competitive prices – creating a fair and efficient marketplace for all users.

3.2 Aim of the Project

Our project aims to revolutionize Bangladesh's car market by creating a transparent online bidding platform that replaces closed-door negotiations with open competition. The system will enable fair pricing through real-time bidding, connect buyers and sellers nationwide, provide verified vehicle information, and ensure secure transactions. By breaking down traditional market barriers, we'll create a more efficient marketplace where everyone from individual owners to dealers can buy and sell vehicles at true market value with confidence. This digital solution will bring much-needed transparency, accessibility and trust to Bangladesh's automotive transactions.

3.3 Advantages of Online Car Bidding System

This system makes car buying/selling easier and fairer for everyone. Buyers get better prices through open competition, while sellers reach more customers nationwide. It saves time by replacing physical negotiations with simple online bids. All car details are verified, payments are secure, and the process is completely transparent - creating trust in every transaction. Dealers and individual sellers alike benefit from this modern approach to car trading.

3.4 Advantages for Car Owners

Our online car bidding system gives vehicle owners the best way to sell their cars quickly and at the best price. Owners can:

- Get fair market value through competitive bidding
- Avoid dealer price manipulation
- Sell faster to serious buyers nationwide
- Showcase their car's real condition with verified details
- Complete secure transactions without risks
- Save time/effort compared to traditional selling methods

3.5 Summary

The online car bidding system benefits all users - buyers get fair prices, sellers reach more buyers, and the entire process becomes faster, safer and more transparent compared to traditional methods.

CHAPTER - 4

PROPOSED SYSTEM DESIGN

4.1 Introduction

Our proposed car bidding system is designed with user-friendly features for easy buying/selling. It includes secure authentication, real-time bidding, vehicle verification, and digital payments - creating a complete online auction platform that works for all users while ensuring safety and transparency.

4.2 Use-Case Diagrams

The works and operations of different users are separated here. The use Cases are given below:

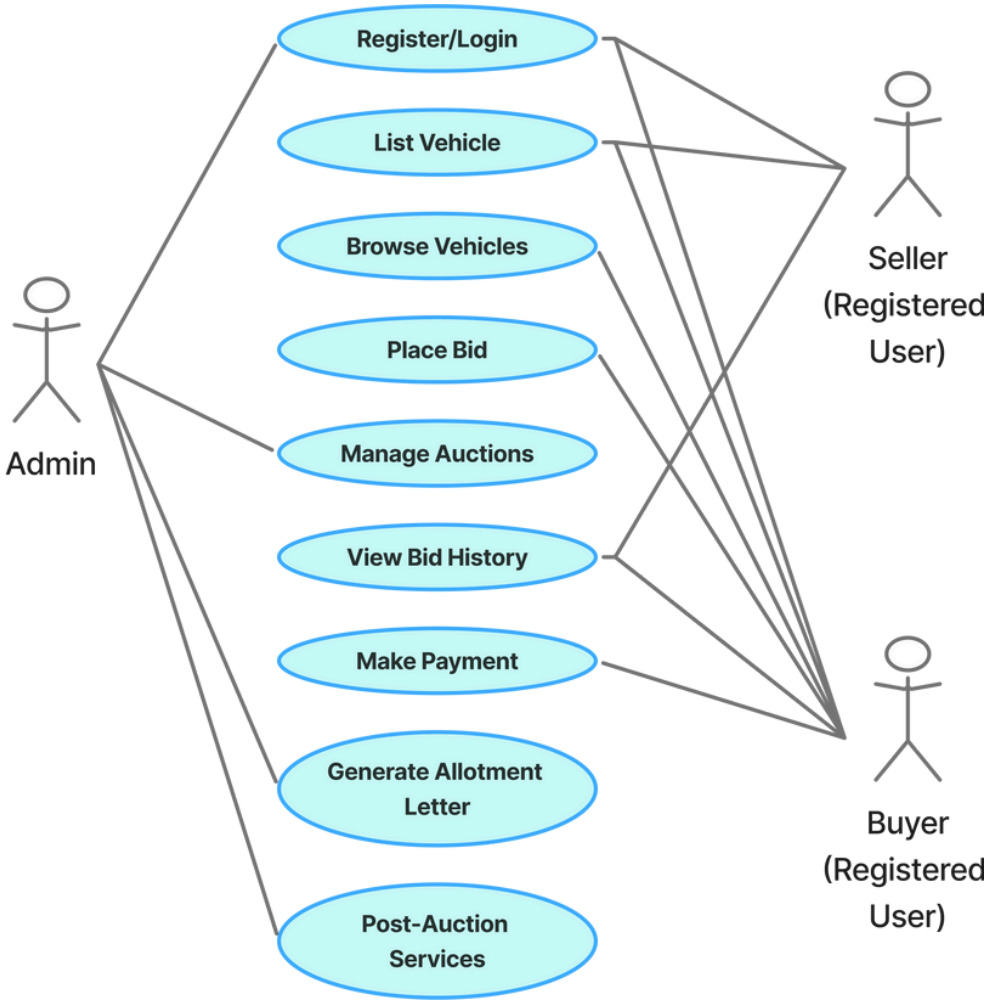

Fig.4.2: Use-Case Diagram

4.3 Data Flow Diagram (DFD)

The Data Flow Diagram (DFD) visually maps how information moves through our car bidding system, highlighting its efficiency and user focus. For buyers, it shows the smooth bidding process from registration to payment. For sellers, it tracks vehicle listing to sale completion. Most importantly, it demonstrates how the system securely manages sensitive user data and financial transactions while maintaining transparency at every step - ensuring trust for all participants in the auction process.

4.3-1 Level-0 DFD

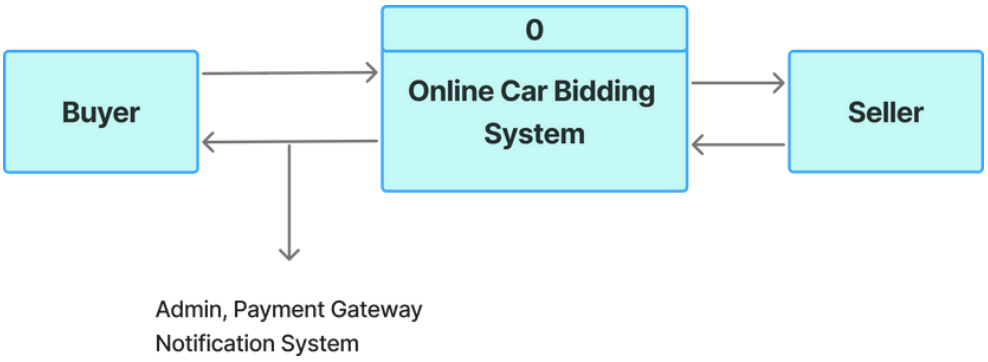

Fig.4.3.1: Level-0 DFD

4.3-2 Level-1 DFD

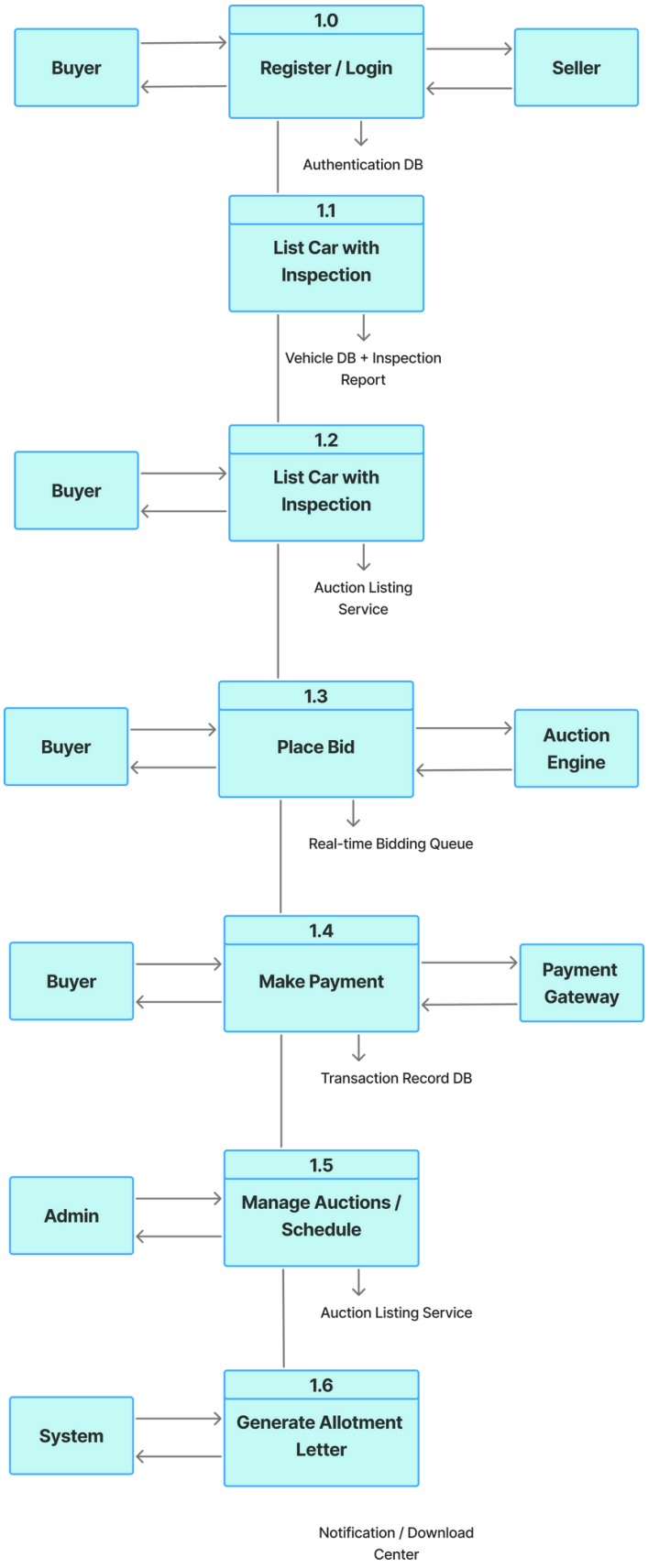

Fig.4.3.2: Level-1 DFD

4.3-3 Level-2 DFD

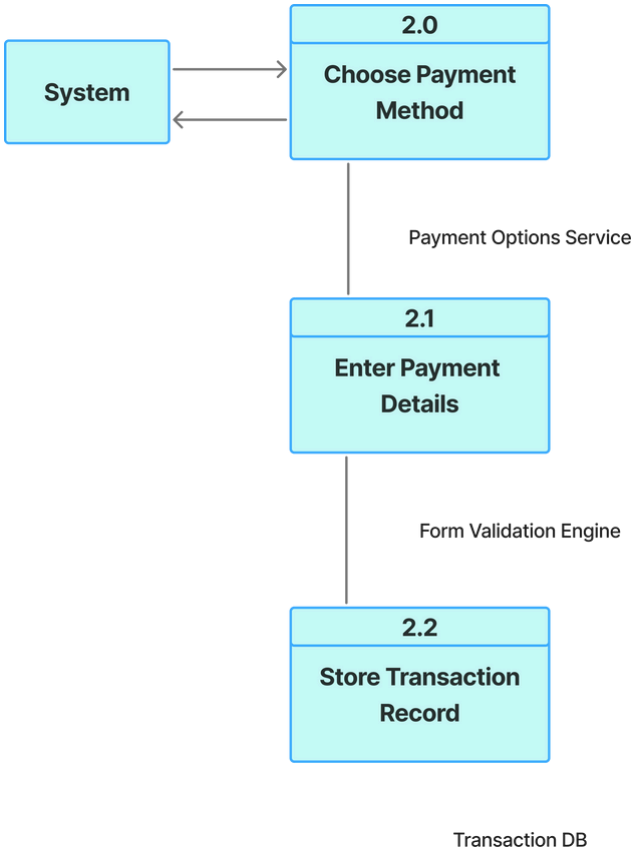

Fig.4.3.2: Level-2 DFD

4.4 Entity Relationship Diagram (ERD)

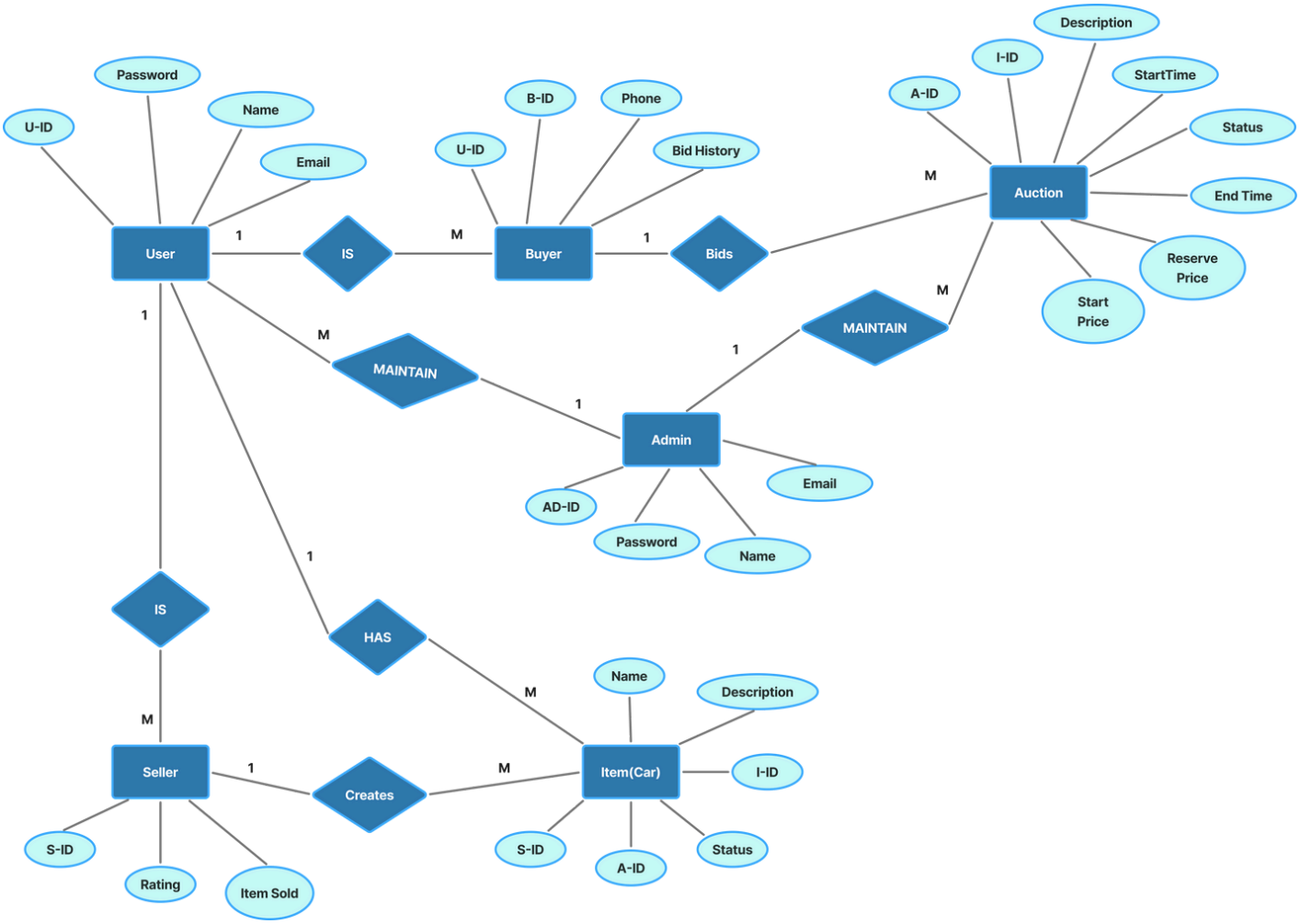

Fig.4.4: Entity Relationship Diagram

4.5 Summary

This chapter presented the complete design of our online car bidding system through visual diagrams and clear explanations. The use case diagram showed all user interactions, while the DFD illustrated secure data flow between buyers, sellers and the system. Together with the ER diagram, they form a solid foundation for building a transparent, user-friendly car auction platform.