

# **Proposed Idea of Online based Car Selling and Buying System in Bangladesh with the Concept of Automated Car Auction Systems in Japan**

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## **ABSTRACT**

The online car auction system is very common to sell vehicles especially used vehicles in most nations and becomes very popular for its reliability and quality assurance. Nowadays people are very interested in the new cars and also for exchanging their old cars with the new ones and the online auction receive much attentions. Moreover, the car dealers send their cars to the auctions with the main purpose to be sold out quickly and hassle-free. In Japan, there are over 30 well-known auto auctions and two hundred auto auction locations. Though the auctions can be found in most countries however in many countries their laws allow only dealership holders for used car exports, local business and usually the auctions are exclusive to the licensed automobile dealers. With the concept of Japanese car auction system, a proposed idea for online based car selling and buying in Bangladesh is shown which is not only for the licensed dealers but also for the general people who can take part in this auction.

## **General Terms**

Online based car auction system.

## **Keywords**

Auction, car bidding system, automated car auction system, tendering process in Bangladesh etc.

## **1. INTRODUCTION**

Nowadays the term “bidding” has been treated in different ways as there are several online auctions in which cars are bid to sell or purchased in a faster and easier way than the old days’ auctions. The automated car auction system is an environment of selling used cars and other vehicles in an online way where cars are sold based on the bidding system [1]. This system is more reliable and automated which avoids the additional cost added by the car dealers and it also ensures the quality of the cars as written in papers. Auctions are preferred because of assured quality, details of authentic conditions, compatible payment and delivery terms, hence, no fear of being cheated. This is comparatively an easier and process for used car business. Here the buyers can make a quick decision by examining the details of the cars online. The auction is held with thousands of vehicles and bidding is done and monitored in big halls in networked computers with the images of car auctioned [2]. As the bidding is held online, a member can bid from anywhere in the world. Globally in the USA, Japan and the UK, the most active players in the market of auction car sale are recognized. Especially there are over 30 well-known auto auctions and 200 auto auction locations in Japan [3]. The car auction systems receive great attentions owing to its great prospects and also the feeling of the business is quite “exciting”. As nobody knows in advance that how much the cars would be sold, it seems uncertain which

may be so interesting as well as frustrating. Japan is one of the most advanced countries in terms of high technology. On the other hand, Bangladesh is an emerging country with good rising prospects. “Digital Bangladesh” is the vision of the country so that people can get the full advantages of “Information Technology”. As a very advanced nation, Japanese are role model for all over the countries. Hence, gathering the knowledge, technology from such kind of developed country would be very fruitful for the rising countries and Bangladesh is not an exception. Bangladesh is an emerging country with its huge population. The main power of Bangladesh is its young people. However, as the density of population is quite high, the systematic way could be appreciable for all sectors of the country. In Bangladesh, the car auctions are also held however not as in Japan. Since Bangladesh is trying to focus on digitization, the car auction system should also be included.

In Bangladesh the traditional tendering process exists which requires the bidders to buy tender form and for this purpose often they have to wait in a long queue. After this, the bidders have to fill out the form, mentioning the amount and attach others required documents. Then the bidders submit the tender file in the office. This process is more time and cost consuming as it requires multiple visits. The person who mentions the highest price will be declared as the winner. In this traditional tendering process there are always questions of ensuring equal opportunity of participation and have the possibility for tender manipulation [4]. In this paper a model of online car auction system for Bangladesh is proposed based on the concept of automated car auction systems in developed countries like Japan.

This is an anticipated idea so that the auction authority may get idea and then designs the system with their requirements and wish. The terms and condition, way of bidding would be completely dependent on the owner of the system. This car auction idea may be helpful for other online auction system also.

## **2. AUCTIONS IN DEVELOPED COUNTRIES**

Auctions are very common in developed countries. In most nations, auto auctions are the most popular to sell used cars especially in Japan as Japan is one of the most advanced countries in technology and automation. There are lots of car auctions in Japan and among them, some are very big auctions such as Used Car System Solutions (USS), Toyota Auto Auction (TAA), Mirive etc. Probably as the largest, convenient used vehicle auction, the USS auto auction also provide “Globe Network” services utilizing satellites and an internet based “Internet live” service [2]. For reliability, safety

and high quality, the popularity of Japanese vehicles is vast around the world, hence used car export is increased at a high speed to all over the world. Japanese auction houses provide high quality used car at cheap prices as the additional costs are not provided by the dealers. According to Japanese law, a person cannot easily do the used product business like cars, computers, furniture unless having the second hand dealer license called “kobutsusho”. In general, without the license, people are not allowed to be the authentic members of the auction and to take part in the auto auctions only the license holders can become members and can bid the cars for buying and selling [5].

To sell the cars in USS or big auctions, the sellers have to bring the car at the auction garage before the auction is held. Figure 1 shows thousands of cars to be bid in probably the biggest auction in Japan named USS auction.



Fig 1: Cars at the auction garage [2]

The sellers also fill the inspection sheet about the actual situation of the car. All the details of the car are also examined by the inspectors to evaluate all the features and faults of the car which play a vital rule for judging the car by the buyers. Auction is held in big house with thousands of PC and big monitors as shown in figure 2.



Fig 2: Auction in big house with thousands of PC and big monitors [2]

The expected price would be hidden at first for the buyers and later it would be shown in the screen when someone’s bid price reaches the expected price.

Sellers have to pay the participation charge to put the cars in the auction whether the car will be sold or not.

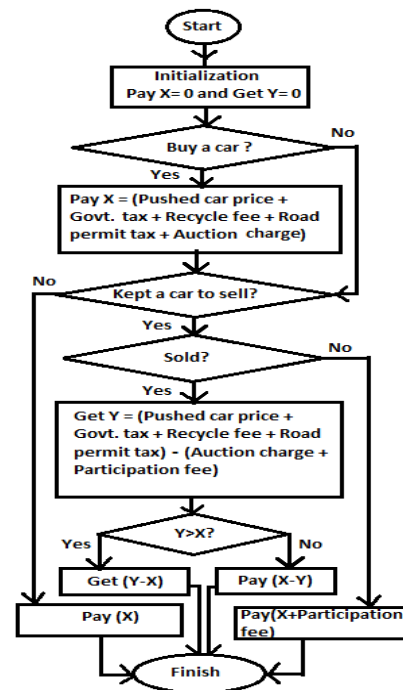


Fig 3: Flow chart of algorithm of buying and selling a car

Roughly the selling and buying system in automated car auction systems can be realized from the flowchart in figure 3. Of course it is not a unique or perfect system to be followed by all automated auctions. It is natural that it would be changed. The algorithm of the system is described below:

1. Initially the price of a car to Pay (X) or Get (Y) is set to zero.
2. If anyone wants to buy a car after judging all the details of the cars, he has to continuously press the button to bid the price.
3. When it reaches the expected price mentioned by the seller, he can buy the car if no one’s bid price is more than his price. If his bid price remains highest for several seconds, the car will be sold to the person hitting the higher price.
4. Government Tax, Recycle fee, Road Permit Tax and the auction charge will be added to the bidding price that the buyer has to pay. Here,  $\text{Pay (X)} = (\text{Pushed car price} + \text{Govt. tax} + \text{Road permit tax} + \text{Recycle fee} + \text{Auction charge})$
5. If the bid price does not reach the expected price set by the seller, then the car will not be sold.
6. If the member wants to sell a car and if the car is sold out then he will get pushed car price, govt. tax, recycle fee, road permit tax, auction charge paid by the buyer. If the car is not sold out then he has to pay the participation fee  $\text{Get (Y)} = (\text{Pushed car price} + \text{Govt. tax} + \text{Road permit tax} + \text{Recycle fee}) - (\text{Auction charge} + \text{Participation fee})$
7. If the price value of Get (Y) is greater than the value of Pay (X) then he will get (Y-X) price otherwise he has to pay (X-Y).
8. If the car is not sold out then the seller has to take out the car from the garage otherwise the car will be

taken for the next auction time again automatically and the seller have to pay the auction charge again.

### 3. PROPOSED IDEA FOR CAR AUCTION SYSTEM IN BANGLADESH

Automated car auctions in most countries are established however there are strict rules and regulations. As an example, in Japan, only dealership holders can become the members of auto auction. Auto auctions are also exclusive to licensed automobile dealers in the United States also.

In Bangladesh there are also some car auction systems however these are not automated. Using the idea of Japanese car auction system, an online based system for Bangladesh is proposed which are not only for the licensed dealers but also the general people can take part in this auction. Auction based mechanism is demonstrated in several works all over the works such as in refs. [6, 7, 8].

Here in this proposed idea, like in Japanese auction system, to sell a car, the sellers have to bring the cars at the auction garage before the auction is held and fill the inspection sheet about the actual worth of the car. Inspectors also examine all the details and also the faults of the cars which play the vital role for evaluating the cars. Inspector will take some photos of the cars and upload in the site with the details features like figure 4.

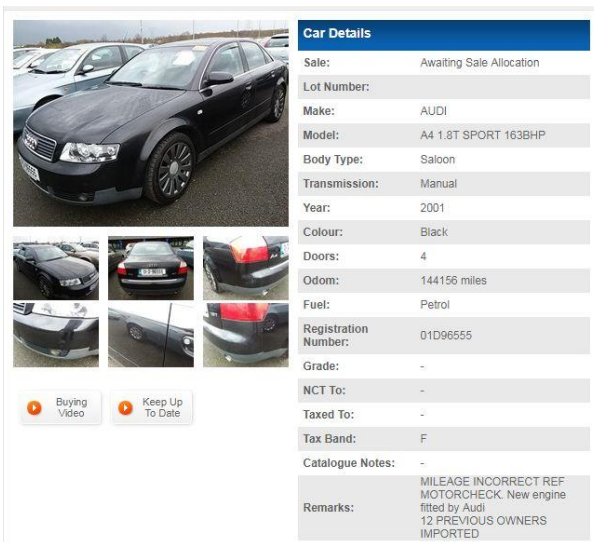


Fig 4: Details of the car is shown in the website [9]

In our proposed system, to take part in the auction, a person has to be the registered member of this site. To be the registered member, the copy of the National identity card (NID) is needed. The system will collect necessary information and location of the member from the given NID.

A personal identification number (PIN) will be sent to the prospective member's address and after getting the PIN, the prospective member will enter the PIN number in the online system.

If the entered PIN number is valid then a unique ID will be given to the user and she/he will be the member.

To take part in the auction, the member has to deposit certain amount of money to the given bKash number.

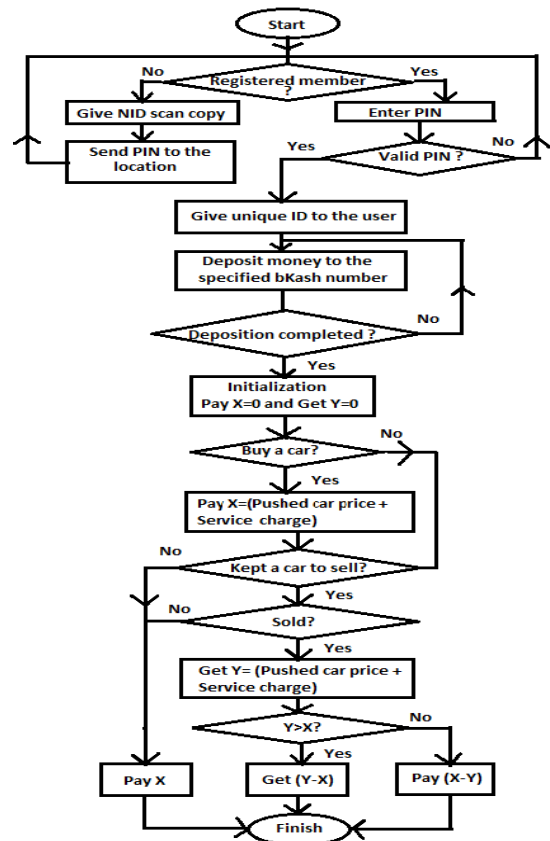


Fig 5: Flow chart of algorithm of online based buying and selling car system in Bangladesh

Figure 5 shows the algorithm for buying and selling cars through online system. The algorithm is described below:

1. Initially the price of a car to pay (X) and to get (Y) is set as zero.
2. If anyone wants to buy a car after judging all the details of the cars he has to press the button continuously to bid the price.
3. When the pushed price reaches at the expected price decided by the seller, he can buy the car if no one bid more price than him. If no one bids for few seconds it will be sold to the person hitting the higher price.
4. Pushed car price and the service charge will be added to the bidding price that the buyer has to pay. That means  $\text{Pay } (X) = (\text{Pushed car price} + \text{Service charge})$ . If the bid price does not reach the expected price set by the seller, then the car will not be sold.
5. If the member wants to sell a car and if the car is sold out then he will get pushed car price by the buyer and seller has to pay the service charge. That means  $\text{Get } (Y) = (\text{Pushed car price} - \text{Service Charge})$ .
6. If the car is not sold out then the seller does not need to pay the service charge.
7. If the price value of Y is greater than the value of X then he will get (Y-X) price otherwise he have to pay (X-Y).

If the car is not sold out then the seller has to take out the car from the garage otherwise the car will be taken for the next auction time again automatically.

#### **4. CONCLUSION**

The idea of automated car auction system for Bangladesh is proposed based on Japanese car auction system. The complications to take part in the car auction system existing in Bangladesh is tried to overcome in this proposal. Not only car auction but other auction systems can be developed using this proposal. In this paper, the idea is just proposed and the full online system is not developed. The future work would be the buildup the full automated online based system by using the several computer programming languages and database management systems.

#### **5. REFERENCES**

- [1] Bo Hang, "Design and Implementation of Online Bidding and Tendering System". 2010 International Conference on Computer and Communication Technologies in Agriculture Engineering'.
- [2] USS auto auction in Japan. <https://www.ussnet.co.jp/eng/auction/>
- [3] Japanese used vehicle exporting. [https://en.wikipedia.org/wiki/Japanese\\_used\\_vehicle\\_](https://en.wikipedia.org/wiki/Japanese_used_vehicle_)
- [4] E-Tendering process of the Bangladesh bank. <https://a2i.gov.bd/stories/e-tendering-process-of-the-bangladesh-bank/>
- [5] Japan used car auction system. <https://info.japanesecartrade.com/content-item/129-japan-used-cars-auction-system>
- [6] T. S. Chandrashekar, Y. Narahari, Charles H. Rosa, Devadatta M. Kulkarni, Jeffrey D. Tew, and PankajDayama, "Auction-Based Mechanisms for Electronic Procurement". IEEE Transaction on Automation Science and Engineering, VOL. 4, NO. 3, JULY 2007.
- [7] Suwei Feng, Zuqi Ma, Performance Analysis on Private Vehicle Plate Auction in Shanghai.
- [8] Francesco Basile, Pasquale Chiacchio and Emiliano Di Marino, "An auction-based approach for the coordination of vehicles in automated warehouse systems". 2017 IEEE International Conference on Service Operations and Logistics, and Informatics, September 18-20, 2017
- [9] Merlin car auction. <http://www.merlin.ie/en.aspx..>