Improving Academic Outcomes: An in-depth analysis of A Comprehensive Examination of e-Art Gallery

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Abstract--This paper provides insights into the design research process and out comes of an art gallery website designed by a design studio. Our research indicated that artists often do not exhibit their art work in popular virtual art galleries, not only because intermediation of art curator tends to be cost intensive but also because appropriate art curators are difficult to find. Our research is aimed at developing support for providing value for works of artists through developing an artist friendly website wherein artists can sell their art without the aid of art curators. Physical art galleries design the art display environment for the users in a unique way by providing them a soothing experience of connecting to the art through lighting, space and ambience. We attempt to transfer the same experience virtually to the user. Through multiple methods such as competitor analysis and interviews with art enthusiasts, artists and art curators, we identified certain issues with existing art galleries on the web and jotted requirements for the novel art gallery design. We present the evolution of a new art gallery design including information architecture, wireframe and implementation. We discuss the novel features of the new design such as an art value calculator that helps artists to estimate the value of their art without the aid of an art curator. We will also discuss the issues faced with employing design research methods such as card sorting and interviewing, and then provide certain suggestions for improving specific aspects of these methods.

Keywords: *Virtual art gallery. e-commerce website. Art-curation. Web-application design Process.*

INTRODUCTION

Artists for a while have this pain of being exploited by not getting paid fairly. Also, art buyers have the problem of spending exorbitant amounts to buy artworks from art galleries. Both sellers and buyers are unhappy with the current system, but due to lack of an alternative they are bound to use the conventional system. Traditionally, artists are considered to live in their own world, disjoint from the social world; hence they need an intermediary source to market and sell their artwork. This eventually led to the rise of art galleries and artcurators. This con vention was so blindly followed, that curators and art galleries became the unsaid owner of the art for sale. Typically, for majority of sales, art galleries charge commission of more than 60% of the value of the art [1]. This offered a good potential to design a product, which would reduce these unnecessary costs and eventually be beneficial to both art sellers as well as buyers. With advancement in web media, online art galleries are emerging, but they are not yet efficient enough to solve the purpose of fair art trade. The objective of this study is to find gaps between an artist and an art buyer and try to make a seamless channel between the two, along the lines of designing this web-application based on new age design language.

II. METHODOLOGY

2.1 Research Methodology and Data Collection Initial literature survey indicated that research concerning art e-gallery designs has been scarce . In the following section, various methods used for data collection and the out comes of those methods are described.

2.1.1 Competitor Analysis The objective of competitor analysis is to know about a competitor sothe firm's competitive strategy can be formulated to take into account the competitors' likely actions and responses [2]. Competitors can be classified as follows: (a) The ones who satisfy the same set of customer needs and (b) The ones whose resource base, technology, operations, and the like, are similar to that of the focal firm [2]. Competitor analysis is aimed at identifying strategy of competitors and their likely actions and responses and to estimate the financial and personal outcomes of the competitor's strategic choices [2]. Art of Designing an e-Art Gallery 539 A list of 16 competitors was listed in a pug-matrix where all their strengths, weaknesses and unique selling points were compared. The motive of this analysis is to find loopholes in the existing system that can be treated as an opportunity.

2.1.2 Identifying Users An online survey was conducted of over 100 users having interest in art. They were asked to share their interest in art and motivation to do art, hindrance in fulfilling their interests and their ideal approach of exploring art. As per their responses, the following categories were created: Focus group (artist/art-enthusiast/buyer):

• User group 1: Users who have basic education and who continuously upgrade themselves with trending technology. These are the users who are technologi cally aware and have strong verbal and written communication skills.

• User group 2: Users who have the bare minimum education but comfortable with web products. Due to some reason they lack education, which also affects their communication skills, they are good learners and they make themselves comfortable with technology.

• User group 3: They are highly educated, but are not comfortable with the latest technology. These are the users who have developed themselves in some con ventional practice and still want to stick with it.

• User group 4: They are excellent in their domain but lack sufficient education, which affects their communication skills. They also have poor exposure to technology. Non-focus group (Anyone else except focus group). The non-focus group has also been included to record the usage pattern of a random visitor having minimum or no association with art. Analysis of the behavior pattern of the nonfocused group helps to predict the unconventional use cases, which will help the design process to avoid unexpected failures [3]. If the goal is to convert a normal visitor to a recurring user, who over a period of time may end up as a member of a focus group, the platform has to be designed considering the general usage pattern.

2.1.3 Individual Interviews Contrary to the conventional method of following a standard questionnaire, users were asked to share their story of some incident related to our topic. In individual interviews, an interviewer talks with one user for 30 min to an hour [4].
Individual interviews allow the interviewer to probe the user's attitudes, beliefs, desires and experiences. 540
A. Chandra and P. Uchil As per the availability of subjects, interviews are conducted over telephone and in person. Separate sets of questionnaires have been created for 30 artists, 15 art enthusiasts, 10 buyers/collectors, 2 curators and 5 random visitors. The goal of this exercise is to motivate the interviewee to narrate their story in a more personal way rather than simply answering a list of questions.

2.2. STRATEGY BUILDING AND DEFINING SCOPE

2.2.1 User Persona Creation Personas are fictional characters created to represent the different user types that may use the product in a similar way [3]. All interviewees' responses were collated to create seven user personae. In persona creation, the demographic and psychographic profile has been cap tured. Where demographic (age, gender, marital status, education, employment and region of residence) profile gives the idea of social influence; psychographic (likes, dislikes, beliefs, introvert/extrovert, learning pattern and lifestyle) profile captures the behavioral pattern of the user [5]. Out of 62 subjects interviewed, seven personae were created which were furthergrouped as artists, art enthusiasts and art buyers. These personae will act as the reference of user's behavioral pattern and expectation with the product for rest of the design process

2.2.2 User Journey Map A user journey map tells the story of the user's experience from initial contact, through the process of engagement and into a long-term relationship [5]. A user journey map is constructed using the data obtained from user interviews. It indicates user feelings, motivations and questions for each of the interactions. During the interview sessions, subjects were asked to share their experience journeys in the existing scenario of online galleries. The journey has been divided in three consecutive phases as (a) uploading artwork, (b) exhibition and (c) sale. With three target users, the following bar chart focuses only on the pain points of the user journeys and height of the bar represents in direct proportion the intensity of frustration and dissatisfaction at a specific process/task (Fig. 1).

2.2.3 Requirement Analysis During interviews, all interviewees were asked about their likes anddislikes regarding the existing medium (virtual or physical) they were using for showcasing art (in case of artists) and/or exploring art (in case of art enthusiasts). They were Art of Designing an eArt Gallery
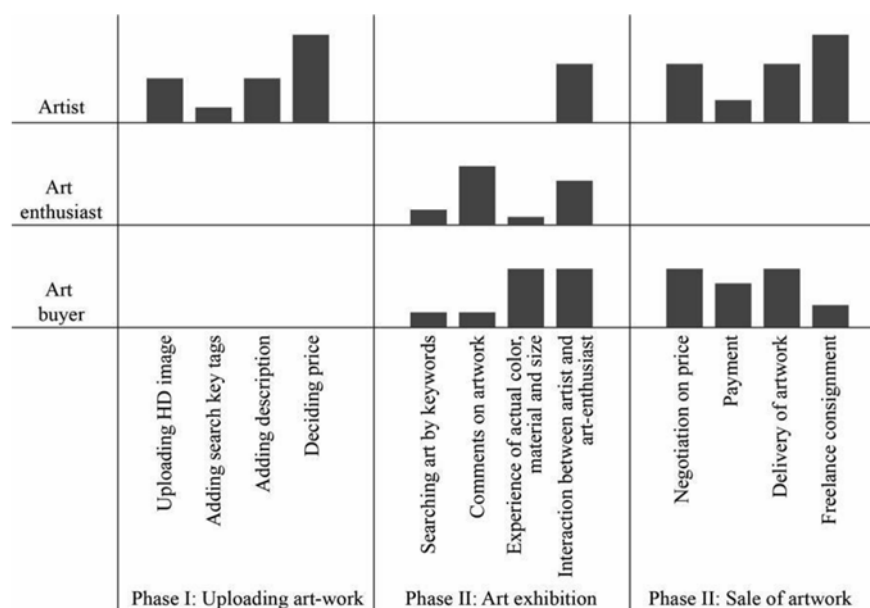

Fig. 1 User's pain point in experience journey map

also asked which practice they thought was an ideal one to fulfill their interest. Noted requirements have been further segregated into "demands" and "wishes", depending upon the intersection of requirements from various group that gave rise to the final set of product feature-set.

For example, an art-enthusiast wants to explore the compatibility of an artwork with different environments and a buyer wants to visualize whether a painting will match his/her wall or not.
These are two different requirements that can be fulfilled by a single feature of virtual trial (Fig.2).
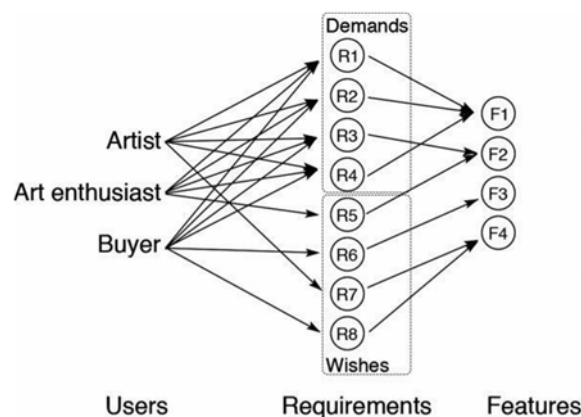
DEFINING INFORMATION ARCHITECTUR

Fig. 2 Mapping of user's requirement and product feature set

In information architecture, flow of information and navigation among the various states of a system are decided [6]. A focus group was conducted with twenty users, where they were asked to club similar cards from a deck of 70 cards, with each card having a text related to an art gallery or an e-commerce website.

Twenty subjects (users) have been further divided into two equal groups. The first group was asked to participate in an open card sorting exercise where participants could create their own names for the categories. This helped to reveal not only how users' mental model for classifying the cards worked, but also to identify the labels they used for each categories. The second group was asked to participate in the closed card sorting exercise, where participants were provided with a predetermined set of category names. They then assigned the index cards to these fixed categories. This helped to reveal the degree to which the participants agree on which cards belonged under each category [7].

MINIMUM VIABLE PRODUCT (MVP)

A minimum viable product has just those core features that allow the product to be deployed, and no more. The product is typically deployed to a subset of possible customers, such as early adopters that are thought to be more forgiving, more likely to give feedback, and able to grasp a product vision from an early prototype or marketing information [8]

Following MVP strategy a mock website was created, where artists can upload an image of their artwork and add description to it and artenthusiasts/buyers can view all artwork from various artists at a single

place (virtual art gallery). Art enthusiasts/buyers can explore the artwork displayed in the gallery and get all the details of an art and the artist. There will be links for contacting the artist and purchasing artwork online but all these links are not active, instead clicks are recorded to measure customer interest.

Users can create their profile but access to most of the profile specific features will be disabled for MVP.

INSIGHTS FROM THE STUDY:

ART GALLERIES DO MORE THAN SELLING ART

Art galleries are found rendering superior aesthetic experience as compared to e-art galleries. Art place is not considered only for selling and buying artwork, but also a place to go to meet people of similar interests and exchange ideas and build a community and socialize. Patrons and students alike come to see a show and then talk about it with peers the next day. People get excited about going to a gallery, meeting an artist in person and experiencing a work of art. With time it also becomes a matter of social reputation to visit an art gallery and buy something from there.

Fig. 3 Motive of audience while visiting an art-gallery

An online survey has been conducted over 50 art-enthusiasts about their expectations while visiting an art-gallery. The result appears as a pyramid shown in Fig. 3. There are three prime motives while visiting an art gallery:

- Meeting people of similar interest is common among all type of visitors (other artists, artenthusiast and buyers) and it forms the base of the pyramid.
- Inspiration for their personal work for visitors who themselves are artists or related to the creative field.
- Business motive, either buying artwork or hiring artist for freelance work. A common pattern was observed with the approach of   visitors with business motive, i.e. if the artist is experienced, then the number of buyers will be more as compared to contract assignment, but reverse with novice artists. So in the following pyramid, the position of buying and contract work will swap according to the experience of the artist.

 PRICE ESTIMATION

Estimating the price is the biggest challenge every artist had faced at some moment of time. Selecting an optimal price tag adds value to the work and helps the artist to look more professional in the market.

Generally, artists decided the price tag depending on the previous sale, but for a novice artist, there was no reference price available. In absence of curator, the problem became even worse and artists ended up with a price much below a deserved value. This action acts adversely by leaving the impression that the artwork was not worthy of sale, hence it was cheap.

If there is a reference price matching the contemporary market, then this problem can be minimized. To serve the same, a price calculator was proposed, which takes few inputs from the artist and calculates a base price as per market standard (Fig. 4).
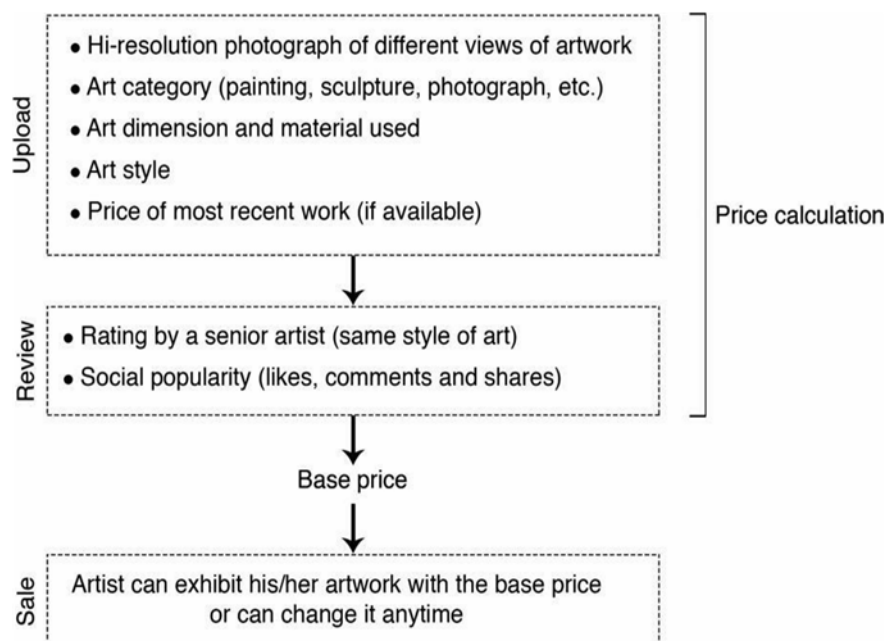

Fig. 4 Price calculation process

PRODUCT REALIZATION HELPS THE USER TO MAKE DECISION

It was observed that in art galleries, before people buy a piece of artwork, they are interested not only in the underlying art language but also in the durability of medium, the constituent materials and the time of painting. Challenge for an e art gallery would be to showcase perceived durability, which is beyond the capability of online data available (i.e. touch and feel).

To make a user more confident, virtual trial is in practice on furniture, spectacles, and fashion apparels e-commerce sites. Even one of the competitors has already introduced virtual trial on artgallery.

In virtual trail, augmented reality technology is used, wherein a user can select a painting on his/her smartphone and place it virtually on the wall of his/her room and can also change the projection of light and reflection on it.
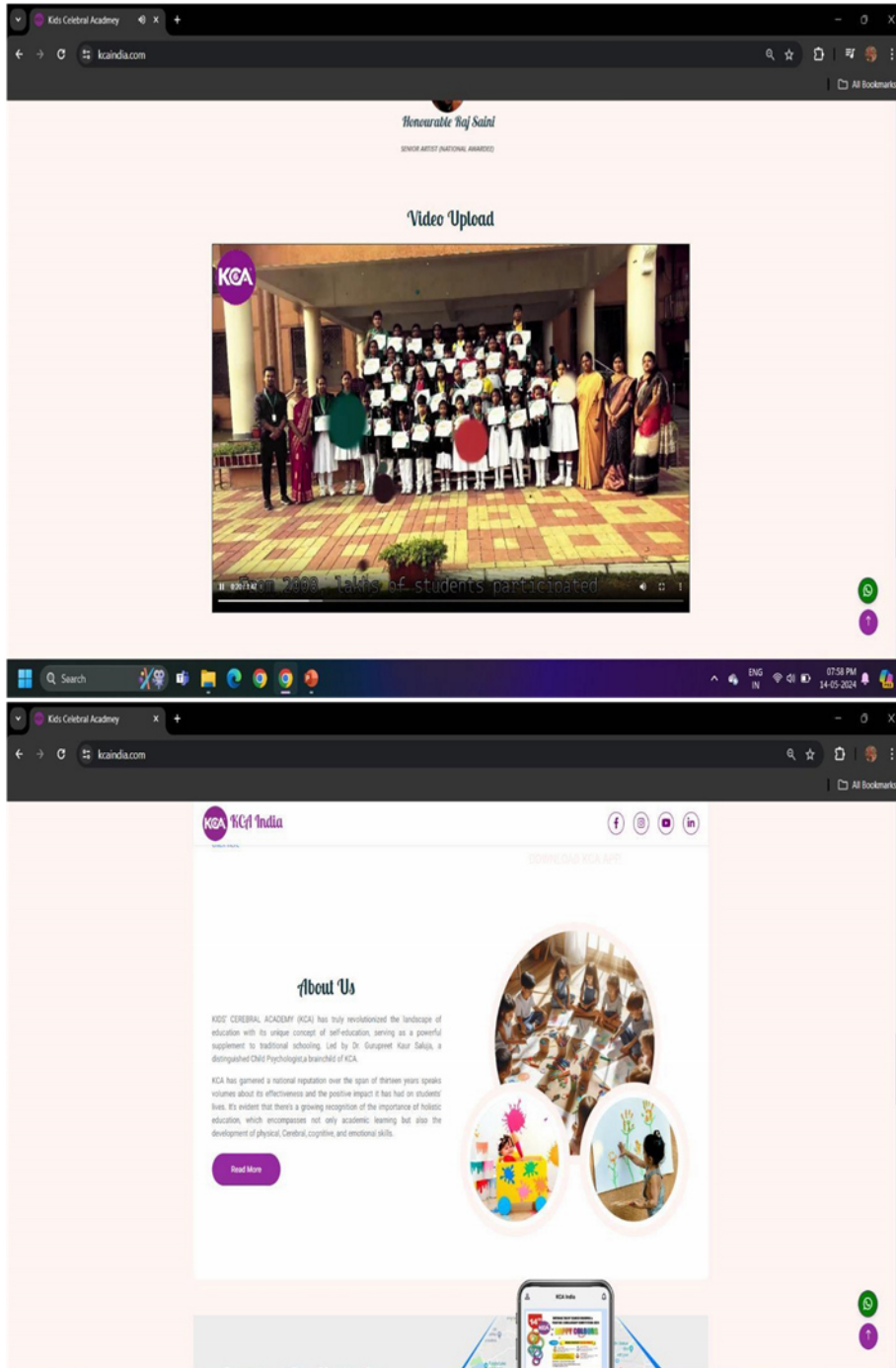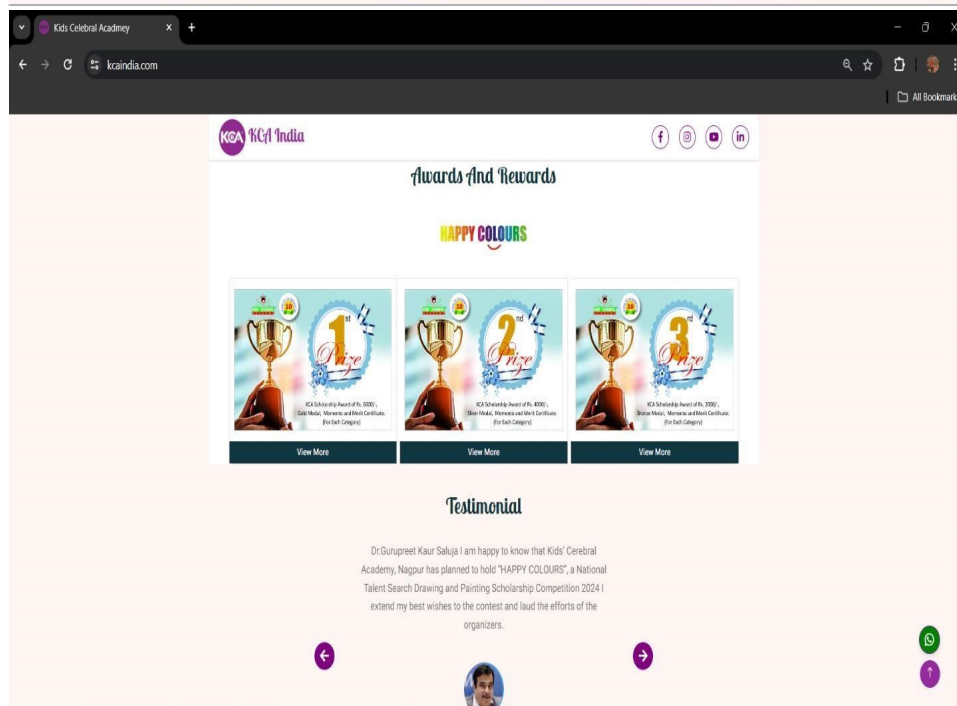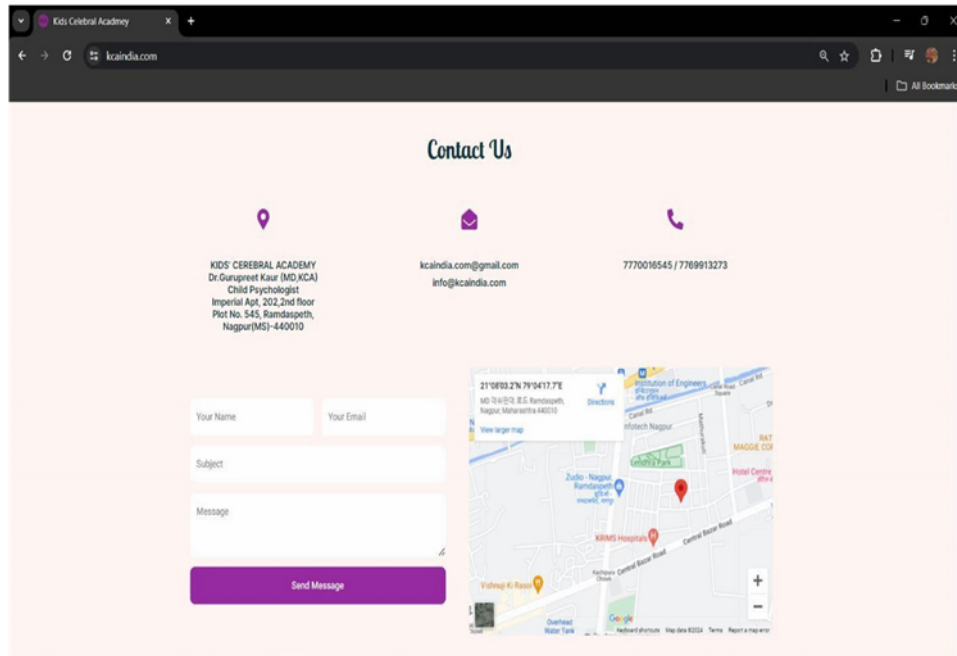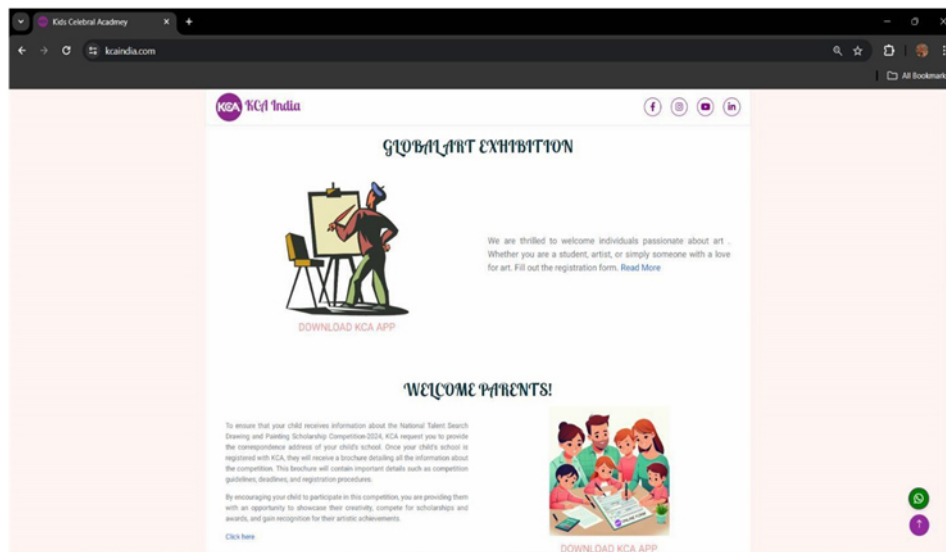
CONCLUSION AND DIRECTIONS FOR FUTURE WORK

Our research identifies online art galleries as more than selling and buying artwork, it is more of an environment which a physical gallery visitor experiences. Visiting an art gallery, meeting the artists in person and buying the artwork from an exhibition/auction appears to be a matter of social status rather than one of personal interest. That is the reason why renowned artists dominate this area.

The study was focused on developing a platform where artists (esp. new) can easily showcase their artwork without involving any artgallery or curator. The proposed platform is an online artgallery, where the artist, art enthusiast and buyers all meet at a common platform and can directly communicate with each other. As far as the role of curator is concerned, it can be minimized by moving the artwork to social media sites for promotion and by introducing an art calculator, which can predict the appropriate price of an artwork for sale. Following points are open for future work

- Proposed art e-gallery will be globally available on Internet. Buyer's approach to art and willingness to value a piece of art by paying the right price varies from country to country and culture to culture.

- Research needs to be sought on enhancing specific feature of the online galleries such as enhancing the uploaded image quality of the artwork on the website. Addition of a video clip where the artist himself/herself describes the artwork.

- Converting a simple e-marketplace to an auction ground.

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