ARTYFY

University of Windsor

_____

Project Details

Professor	Dr. Aznam Yacoub
Project Director	Samaneh Mirirostami

Authors:

Name	Student ID
Yuva Venkata Sai Duppati	110063450
Bhargav Sai Karicheti	110067128
Shruthi Paka	110062738
Lakshmi Vardhani Pravallika Munukutla	110067944
Lakshmi Narayanan Shankar	110070078
Nupur Badiani	110069785
Deepaksai Valluru	110054811
Varun Ahuja	

Table of Contents

_____

_____

_____

1 Introduction

1.1 Project Description:

During the covid pandemic we can observe most of the art galleries and museums are closed. This disappoints most of the art lovers who are enthusiastic towards finding art. In a similar way, artists who want to showcase their art are also being burdened by the restrictions imposed as the art galleries and museums which are not considered as essential services.

Our application exhibit nearby museums and list of total artists who are registered to showcase their art and sculptures to the art lovers and general public. This Mobile application removes the barrier of restrictions imposed on people and let them relish over the art presented by different artists or artistic places.

1.2 Purpose:

The purpose of our project is to develop a high-end, user friendly, cost effective Gallery and Art Management engine that helps intended target users to keep track of all the local galleries, Museums, Artists and Art exhibitions. The software bridges the existing artistic platforms (Arts Gallery's & Artists). It can create new marked space for the Art lovers. The Art finder application will use image and pattern recognition techniques to classify the paintings based on the Artist name or Art Style. This will help the students as well as the museum staffs to group the various paintings into the required category, by just uploading the image of the art. This image comparing it with the image details in the database.

1.3 Project Overview:

In today's world, Due to ongoing pandemic it would be difficult for user to find arts in new places and also for artists to showcase or sell their arts. In order to overcome this problem a software is needed which lists nearby museums and their respective art galleries of different categories and also provides bridge between art sellers and buyers.

_____

_____

1.4 Project Scope:

The scope of this project is to develop an authentic android application that is used for Artists or Art gallery owners to showcase their arts and also sell their arts respectively. The application can also use for search nearby art galleries or museums. The project will also allow users to view or purchase all categories of arts available.

## 1.5 How will this help the university?

Even art students are affected by ongoing pandemic crisis and cannot showcase their arts to the public. we act as a bridge between the students and public who want to present the arts and the people who want to enjoy the art respectively. This application even helps the students to go through the local arts in the museum and to know about the historical & culturist arts presented in the galleries or museums. It also helps the students to explore over particular kind of arts and the arts of their favourite artists which are available on our mobile application. The art finder will prove to be very useful even in the university especially for the students in the Art department. It helps them group the paintings and artistic images into available categories and will provide other suggestions and details of the art which are like the new one.

2 Market Analysis

2.1 Current market and opponents:

Thorough the market research, we found out that our intended target users as students and people who are interested in view, sell, buy, showcase arts and artistic items, government museums and much more.

From the article on analysis of art collecting by [Art net news](#), it can be observed that millennials are more interested towards the arts which is fast growing segment in the recent trends and the older generation are majorly collecting arts and adds to their collections.

_____

_____

SNAPSHOT OF ART COLLECTORS
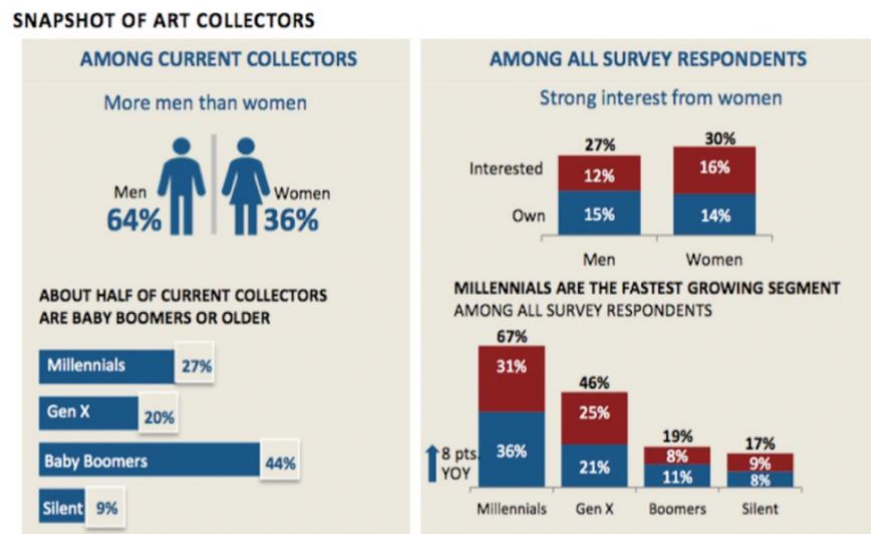
Source: US Trust

Figure 1 Current statistics of art collectors

It also says that wealthier women are more interested towards own art at 14% and 16% of them are more interested to collect. Moreover, as per the statistics of 2017 & '18, the purchase of arts online is rapidly increasing and due to this ongoing pandemic, it is estimated to increase over and over exponentially.
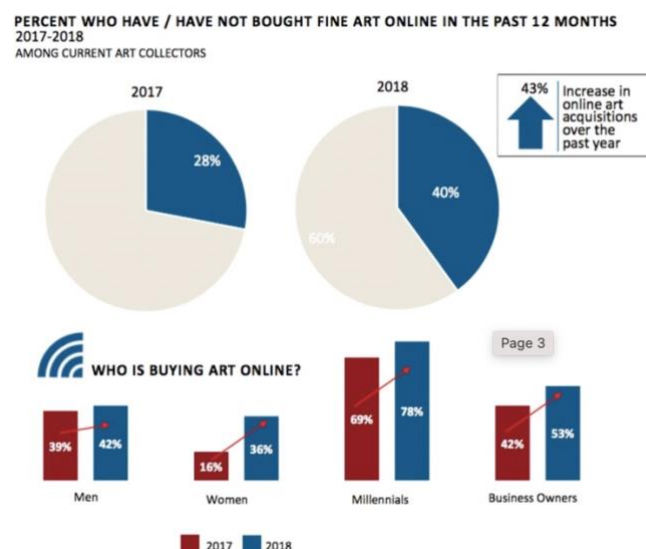

Figure 2 graph representation of online art transactions

_____

6

_____

According to a research article on value of the market from 'Statista Research Department',, the market value of global art market is 64 billion USD & there are over 40 million art transactions in 2019 and these are decreased by 21.9% & 22.5% respectively. This opens more opportunities in online buying and selling digitally.

Due to the ongoing pandemic and from above statistics, we can observe that transfer of wealth and viewing options on artistic items have a market gap which can be filled by our application.

The similar in the market for our App is Artsy. In our proposed application, The users can able to access the arts based on their locations which are nearby and also our product target audience is different from theirs's.

2.2 Market risk:

As long as different kinds of arts available in the market which is never ending. Therefore, The market for this kind of products never ceases to exist. With the development and innovations in the field of technology every day, our application's features and services also need to be extended in order to meet the demand and supply gap. With the increase in usage of mobile phones, the numbers of users will also increase so does the data. Thus in order to provide a seamless experience to the users we need to extend the data handling capacity so that users will not face any problem. Thus, the cost of data storage and handling will also increase.

3 Functional Objectives:

3.1 High Priority:

- Registration and logins.
  This feature implements the Users, Owners and Artists registration to the application and their respective login interface.
- List of the Museum/Gallery.
  This feature shows the list of Art galleries or museums that are available to the end user at their nearest locations.
- View arts and paintings.
  The end user will able to view the arts and paintings.

_____

- Art Finder

    This feature shows the information of arts when the user or owner uploads an image of that particular art using algorithm and also

3.2 Medium to low Priority:

- Add, Update and Remove art items.
  This feature can add, update and remove the art items from the owner interface.
- List of arts
  This feature displays the list of arts that are available.
- Similar art suggestions
  This feature shows the listing of suggested arts based on the information retrieved.
- Buy and payment options.
  This feature provides buying and payment options for art items.

4 Non- functional Objectives

4.1 Privacy & Security:

The admin details are stored in an encrypted format in the database. No false selling can happen through this app, as it is controlled by the Museum owners. Only registered users can access the app for retrieval of the information.

4.2 Performance & Scalability:

The main goal is to retrieve the information with nominal time. Even for further increase in the system load, it won't be affecting the response time.

4.3 Quality:

As we are using the Scrum Methodology, we would follow the standard methods like Unit testing, Performance testing, UI/UX testing, API testing and integration testing. Thus, the quality of the software is not comprised.

_____

4.4 Accessibility:

The application is user -friendly and makes it easier for the customer or the admin to get the details of the required painting. The User-Interface used is compatible in both the Android and IOS systems. The image of the painting uploaded by the user can be done easily in the form of photos from the gallery. Detail instructions will be provided for new users on how to register and use the application.

5 Software and hardware Requirements:

5.1 Supported Platforms:

Android 8+

5.2 Front-end technologies:

XML

5.3 Back-end Technologies:

Java

5.4 Database:

MySQL

5.5 Development Tools:

Android Studio

5.6 Why android?

According to statcounter-globalstats,, most of the people nearly 75% of the global population uses android devices and most of the people are familiar with ease of access of android. Microsoft introduction of windows 11 which features that android applications can also be viewed in windows 11 systems and it's going to increase the reach of our mobile application.

Moreover, technological wise android applications can be developed over a proper tool Android Studio which is widely used by professionals in the IT industry.

_____

9

_____

For the benefit of our product owner, with the revenue of android application we can migrate our existing android application into IOS. A joint application can be implemented for both android and IOS which takes a lot of effort to put into and creates lot of accessibility, responsiveness, alignment and debugging issues.

5.7 Infrastructure and deployment tools:

Jira, GitHub

5.8 Communication:

Microsoft Teams for internal communication, sprint planning, daily scrum sessions, and weekly retro calls.

_____

10

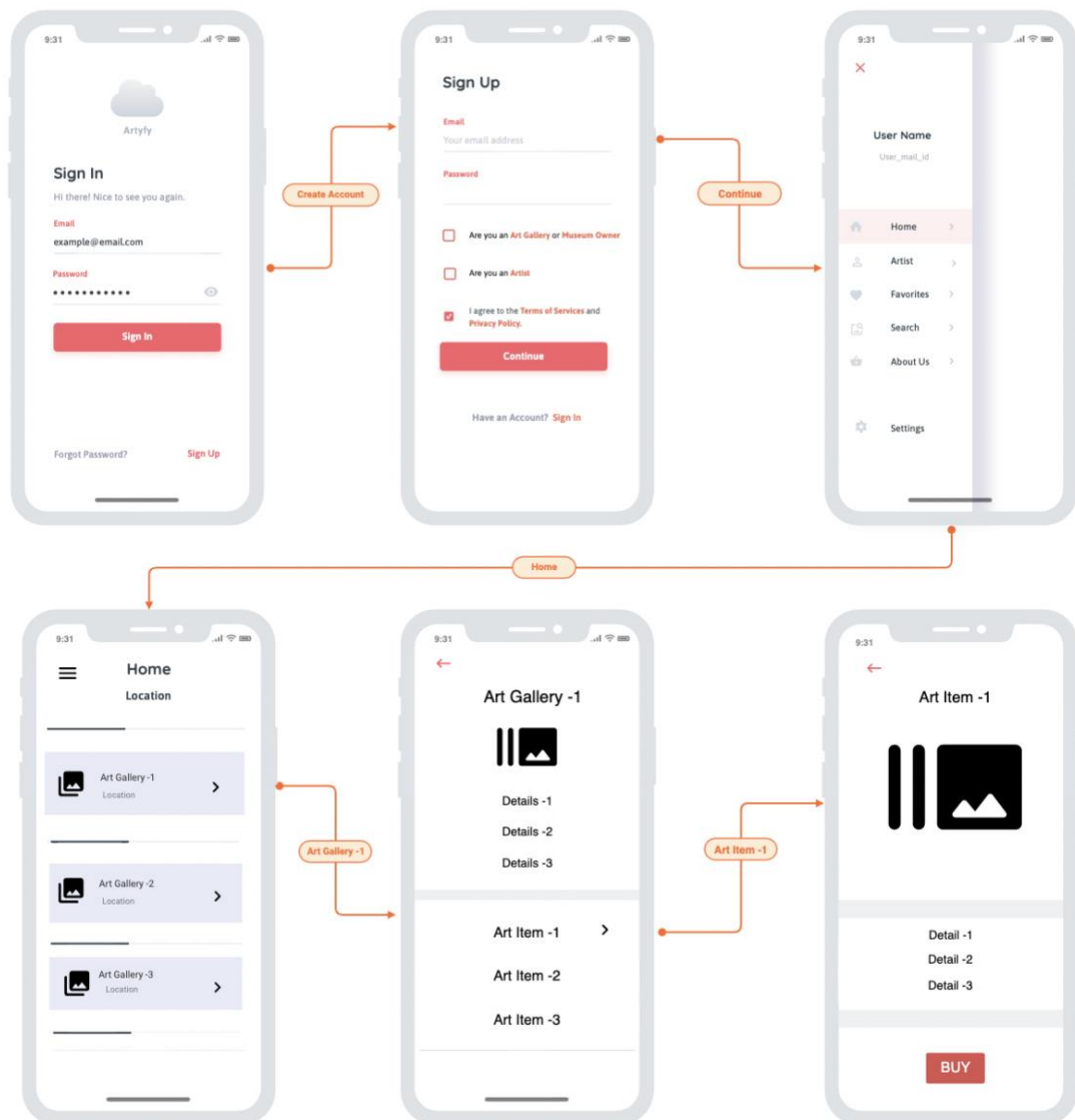_____

6 Prototype:

6.1 End User:

Figure 3 End User user-interface prototype

_____

_____

Based on the above mock up, Nearby museums or Art galleries will be displayed in home page and the individual screen for Artists and Art galleries also be provided whose details are displayed in similar.
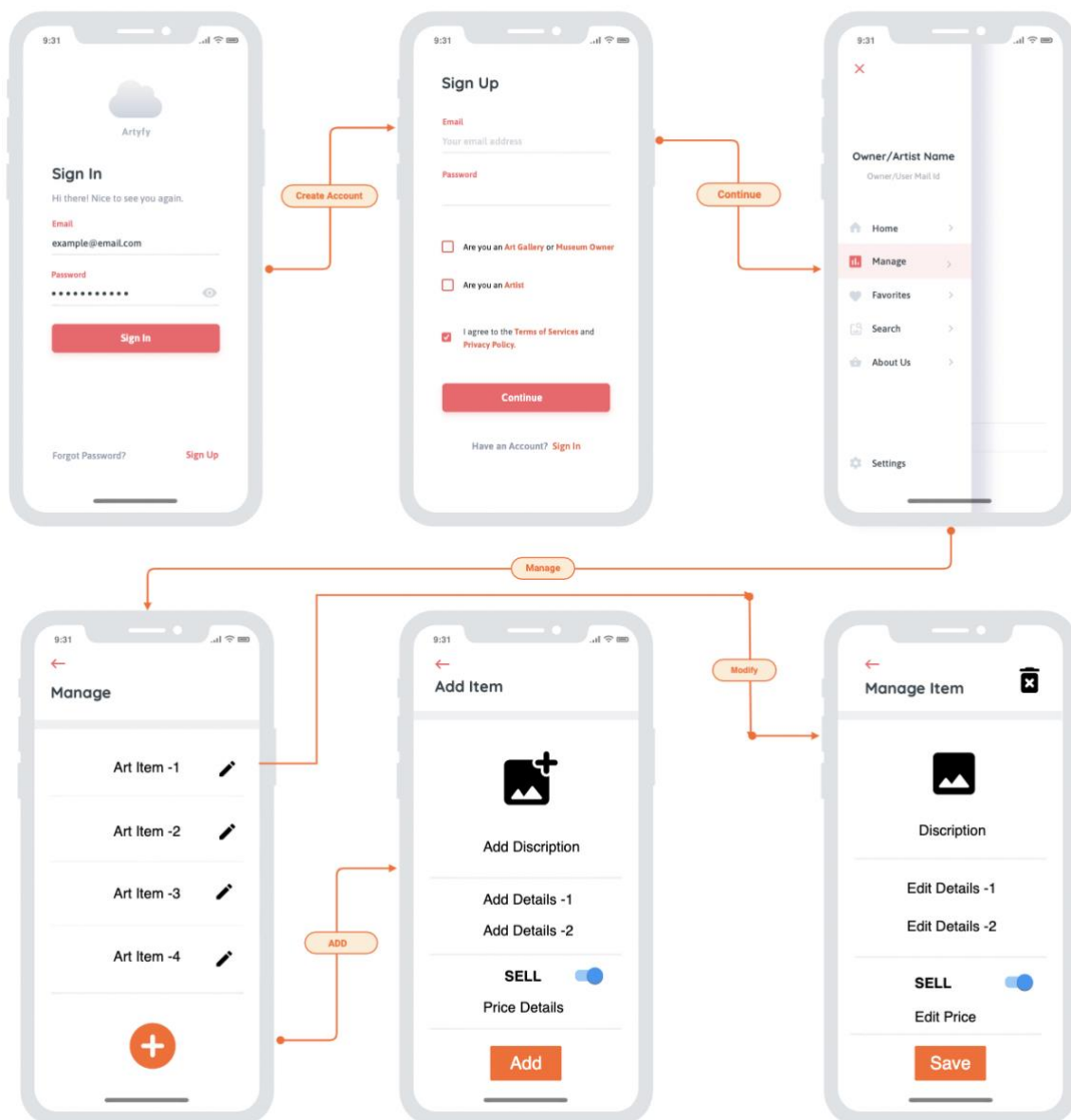
6.2 Artist/Owner:

Figure 4 Artist/Owner user interface prototype

_____

_____

Based on above owner mock up, The Art gallery owners and Artists can Add, Modify and Delete the Art items. They can also edit their Sell information and save the changes.
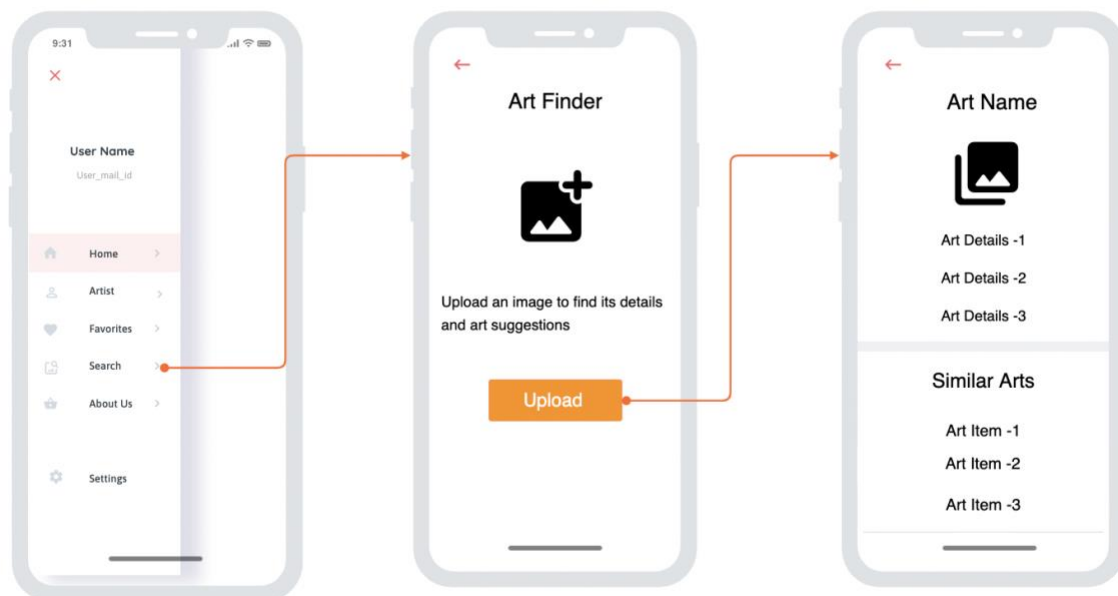
6.3 Art Finder:

Figure 5 Art Finder interface prototype

Based on the above mock up, while uploading the art image the user or owner get the art description and also it displays the similar arts .

_____

_____

7 Cost Analysis

The annual costing of an engineer is $90,000. For this project, 8 engineers would be working for a span of 10 weeks around. Apart from these we will also need additional resources for the project such as hardware requirements, hosting domain, server, electricity and internet, cost of hosting an application on play store.

Human Resource (Engineers): 18,750*8=150,000
Server: 300
Internet and electricity: 1000
Hosting Domain: 50
Cost of app publishing: 25
Miscellaneous expenses: 1000
===================================
Total: 152,375

7.1 Roles and Responsibilities

NAME	TENTATIVE ROLES
Yuva Venkata Sai Duppati	Quality Analyst, Full Stack Developer
Bhargav Sai Karicheti	Full Stack Developer
Shruthi Paka	Database Developer
Lakshmi Vardhani Pravallika Munukutla	Full Stack Developer
Lakshmi Narayanan Shankar	Full Stack Developer
Nupur Badiani	Quality Analyst, Full Stack Developer
Deepaksai Valluru	Scrum Master/Full stack Developer
Varun Ahuja	Backend Developer

* roles are not fixed and are subject to change based on the need.

_____

_____

8 Time Framework:

- Project life cycle – 10 weeks
- 12 sprints
- 3 Milestones
- Project Completion on 29/11/2021.

9 Milestones:

9.1 Milestone 1

Milestone 1 on 27/09/2021 to 17/10/2021

- All registration and login.
- View arts and paintings.
- List of the Museum/Gallery.

9.2 Milestone 2

Milestone 2 on 18/10/2021 to 30/10/2021

- Art finder and art suggestions (User interface)
- Add, Update and Remove art items.
- List of Artists.

9.3 Milestone 3

Milestone 3 on 31/10/2021 to 14/11/2021

- List of art categories.
- Art finder and art suggestions (Implementation of Algorithm)
- Buy and payment options.

_____

_____

9.4 Milestone 4

Milestone 4 on 14/11/2021 to 29/11/2021

- Final deployment

10 Risk Analysis

Some of the risks for the application to fail might include:

- IT security risks(malware and ransomware)
- Data loss when the application crashes or fails
- Code integration issues due to larger group size and most of the team members being new to development.
- Additional requirements proposed by the customer can change our deliverables for the upcoming milestones.

Ways to overcome the risks:

- Daily meetings to be conducted to discuss the progress and tasks assigned to them to avoid any last-minute surprises.
- Should use code repository service such as GIT.

11 Quality Assurance Plan

Scrum is an agile development approach based on iterative and incremental procedures that is used in the creation of software. Scrum is an agile framework that is designed to offer value to the client throughout the project's development. It is adaptable, rapid, flexible, and effective.

SCRUM principles are consistent with the agile manifesto which is used to guide development activities within a process that incorporates 5 framework activities: requirements, analysis, design, evolution and delivery.

_____

_____

Scrum used the set of software process patterns that proven effective for the projects with tight timeline, changing requirements and business criticality.

12 Future Scope

This application is not limited to painting or sculpture, it can be widely expanded to multi nature project such as application for interior designers, indigenous makeup artists, fashion designers and many more whose things can be categorised as arts. We can develop a huge revenue model which can provide options as premium items to buy & view, featuring places and artists basing on subscription, subscribed users can add preferences for which we will present an individual preference screen, charging fee for featuring a painting or art, taking a percentage of fee for selling the art online or bidding the art online.

As per the statistics, there is nearly 50 billion USD global market in pandemic for paintings and sculpture art alone.

Therefore, the future scope of this project is huge and had a wide range of selections to include and enlarge this application. If we make big, this application alone can be the social media for Arts.