

Software Requirements Specification

For

ARt

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1 Introduction

Our project is called “ARt” and is a virtual gallery specially designed for Drexel University. The app uses augmented reality and 3D objects to present Art students’ work and other projects. The app is designed for two different kinds of users. It allows students to present their projects as part of a digital portfolio, and also gives other users a chance to explore a gallery and even buy or review students’ work. The app will also have the option to scan QR codes that will be provided in key spots on campus. Users will be able to scan them and take a look at projects uploaded by students, that are related to that specific place.

1.1 Scope

Our application will be used by people attending or visiting Drexel – as anyone can scan the QR codes that will be provided at various locations on campus. Students will be interested in self-promoting their work and create a different kind of virtual portfolio. The app will also allow users to buy and review the products presented, making the target audience even larger. By using augmentative reality technology, we are trying to make art more accessible to people and make it more relevant to those who have little interest in the field.

“ARt” is a complex project that requires a lot of time and effort in order to be successful. On one hand our team will have to learn new technologies and understand how to create AR and develop iOS. On the other hand, being an application strongly related to art, we need to be very careful with the overall aesthetics of the user interface. The app has both hard and soft benefits. Among the hard benefits, we can consider making the purchasing process easier, helping students sell their work and other users to have easy access to the works of art, thus creating revenues. When it comes to the soft benefits, the app helps users visit a digital gallery, making it more interesting and interactive for them to look at art.

1.2 Definitions, Acronyms, and Abbreviations

The capital letters from the name – ARt - come from the words “augmented reality”

1.3 User Profile

The targeted users are people that are part of the Drexel community, which includes students, faculty, staff and visitor on campus. The minimum viable product will include an app published on the AppStore, that allows users to scan QR codes and explore different virtual galleries from Drexel and buy/review students’ artwork, so the app will

be used for visiting, reviewing and purchasing purposes. It can be informative for a less knowledgeable users and also useful for someone interested in the field.

A user will have to create an account that will allow access to see what it is behind the QR codes and also engage in the social aspect of the application. Every user will be able to communicate with other users, either rating the objects or places exposed, or commenting.

2 External Interfaces

This section identifies ways in which ARt interacts with people and other systems.

2.1 User Interface

ARt is a very interactive app. The first thing that users have to do is choose between logging in or signing up for an account, by tapping either Sign Up or Log In on the screen – that will ask for personal information and Drexel credentials. What comes after the sign up/ log in page is the main menu that will include a user's profile page, the items/ places they liked the most or want to come back to, and the option to scan a QR code.

The main focus of the app is scanning the QR codes that allows the user to see the AR objects, or the 3D gallery depending on the area of the campus where the QR was found. After reaching a certain place/object the users can comment, review or rate it, thus being able to interact with other users as well. There will also be a section in the app where the user will find the places/object that they rated the best.

2.2 Data Interface

All the information stored on the app will be linked to a database to which developers have access and that include pictures, AR objects, comments, user review, ratings and other user input. A location system will also be provided.

3 Specific Requirements

3.1 Functional Requirements

UI – User Interface

The user interface will be in a Drexel color-scheme, very aesthetic, easy to use and navigate the app.

DTB – Data Base

The system will have a database to store user entries and to access information

API – Application Programming Interface

The system will have an API, which can be called from a front-end client application to retrieve information and issue commands.

ACC – Accounts system

The system will allow users to register with unique accounts, and tie them to their Drexel email addresses.

SC – Social Communication

The system will allow users to discuss registered content and engage with other users.

SDB – Security for the Data Base

The system will protect each user's personal information, such as passwords

3.2 Performance Requirements

PRF - Performance

The system will take a couple of seconds to load information – in order to transform the pictures into 3D objects.

BKP – Backup

The system will consist of a code repository on gitlab.

3.3 Design Constraints

3.3.1 Constraint:

Reason 1: Screen Size

ARt is a mobile app which means that our main constrain is the screen size. The user interface has to perfectly fit all the information in a phone sized screen;

Reason 2: Storage

The app's database will have to manage a lot of information.

3.4 Data Requirements

Name	Type	Size	Comment
Reviews/Comments	String	150 MB	Stores user input – feedback, comments and rating for each particular object generated by the QR codes.
QR Database	String	200 MB	