

Milestone 2

Warehaus Media: Requirements, Specs, Architecture, UI Mockups

Team One

Lindsey Anne - lhogg@mail.sfsu.edu

Josh Reed

Jasmine Mann

Jason Wong

Tyler Huang

Bo Li

Raymond Feng

1. Executive Summary	3
2. Use Cases	4
Guest User	4
Merchant User	4
Patron User	4
Administrator	4
3. Data Definition	5
4. Functional Specifications	6
5. UI Mockups and Storyboards	7
6. Non-Functional Specifications	11
7. Competitive Analysis	12
8. High-Level System Architecture & Database Organization	13
Web Application stack - LAMP	13
Deployment - Amazon Web Services (AWS)	13
Framework - CakePHP	13
UI - Bootstrap/JQuery/React	13
MVC Framework	13
Media	13
Search	13
9. High-Level UML Diagrams	16
10. Key Risks	17
11. Team Organization	18

1. Executive Summary

People love art. Pictures, paintings, videos, or any other types of attractive visuals created and shared among people can evoke strong emotions and memories. According to [hubspot.com](https://www.hubspot.com), over 150 million daily active Snapchatters snap an estimate of 8,796 photos or memories per second. With that being said, people love the sight of a beautiful picture, because the image not only provides an immediate message to the receiver but capturing or collecting images is also a hobby for many of the people today.

In today's world of competitive trade and technology, businesses are aware that one of the most important focus is to constantly make sure that their marketing materials are visually appealing to their audience. With nice looking photos and awesome videos, customers will likely have a greater experience and stay. Media managers need a supply of images and videos to help their businesses better advertise and sell themselves.

This is where Warehaus Media comes in. From big companies to startups, Warehaus Media can provide users with visually attractive components to better attract users. The company can also provide better customer service than other popular media purchasing sites, such as iStock.

Warehouse Media is built by a group of well-trained engineers from San Francisco State University. The company's focus is to give users a great time by having a simple interface and an efficient searching and sorting method that will ensure the best experience when visiting.

2. Use Cases

Guest User

Kevin is an art student. He has never learned about design, and his professor assigns a project to him. He wants to look for some pictures or videos to buy as reference to inspire him to finish the project. As an unregistered Guest user, he can only view the information (item's description, price and thumbnail) of the item that he searched. If he decides to buy an item, he is prompted to register an account.

Merchant User

Margaret is a self-employed graphic designer with a lot of photos and art that she would like to sell. She registers a Merchant account on the Warehaus Media website. After filling in her Merchant information, she posts her items with appropriate prices and descriptions. Upon posting, all Guests and Patrons who search the specific items could see the information that she posted, and they can contact her directly to ask more details about the items.

Patron User

Steve is a frequent customer and needs another stock photo for his expanding tour guide service website. When Steve visits the Warehaus Media website, he signs into his Patron account, where he is greeted and recommended cityscape pictures based on previous transactions and searches. Steve, going off the website's recommendations, finds another similar stock photo that he enjoys, so he proceeds to purchase. Since Steve is already registered and has saved his payment information so he can skip most of the Guest user's registration process and head straight to buying the product.

Administrator

Alexandra has been hired as the Administrator of Warehaus Media. She will manage the database of the website and receive messages from Merchant, Patron, and Guest users about illegal media files, complaints, and site bugs. She is easily able to delete media files which violate the Terms and Conditions of the site and send warnings to registered sellers. She is able to suspend/delete any registered accounts which violate the site's policies.

3. Data Definition

1. Registered user – user with an account that can either post or buy content depending on user type
 - a. Email
 - b. Username
 - c. Password
 - d. Role
2. Guest user – user without an account; can browse the site for content; Cannot post or buy content
3. Merchant – registered user with Merchant role; sells media files
4. Patron - registered user with Patron role; purchases media files
5. Content - The media files users will be selling and purchasing--images or videos
 - a. Owner ID
 - b. Media Type
 - c. Category
 - d. Title
 - e. Description
 - f. Price
 - g. Thumbnail
 - h. Full-size media file
6. Administrator – a user with special privileges; will be able to delete any media files and ban any registered accounts; will be able to manage the database.

4. Functional Specifications

1. Guest users shall be able to browse through the site, but not have access to post or download media files. - P1
2. Guest users shall be able to contact administrator. - P2
3. Guest users shall not be able to contact sellers. - P2
4. Guest users shall be able to create accounts and log in. - P1
5. Merchant users shall be able to upload and post photos and videos they wish to sell. - P1
6. Merchant users shall be able to edit or remove their listings. - P2
7. Patron users shall be able to search for media files by name, owner, media type, and category. -P1
8. Patron users shall be able to have access to download media files. - P1
9. Merchant and Patron users shall be able to reset their passwords and add/edit personal information as they wish. - P2
10. Merchant and Patron users shall be able to find their passwords if they forgot, and passwords shall be sent to the their email addresses. -P2
11. Merchant and Patron users shall be able to contact other Merchants, Patrons, and Administrator. - P2
12. Administrator shall be able to delete any listed media files. -P2
13. Administrator shall be able to delete any registered accounts. -P3
14. Administrator shall manage the database. - P1
15. Administrator user can be activated/deactivated in order to manage Administrative permissions. -P2
16. The site shall present the Terms and Conditions and Privacy Policy during the registration process. - P1
17. The site shall ask for username and password. - P1
18. Passwords shall be encrypted. - P1
19. Fuzzy string search shall be used to filter photos and videos. - P2
20. The site shall show most viewed media files if no file matches user's search. - P3
21. The site shall have the order lists which are history and current orders. - P3
22. The site shall have shopping cart which photos and videos are selected by Patron users without purchasing. - P3
23. When creating accounts, the user shall fill in user name, double passwords, (one for create, one for double check), email address (in order to find passwords if they forgot). - P1

5. UI Mockups and Storyboards

5.1 Storyboard 1 - Guest (Unregistered) User

Kevin enters the homepage of Warehaus Media where he can see there is a search bar where he can search media by keyword. Also, the three most recent pictures will be displayed under that search bar.

WAREHAUS	ABOUT US	CONTACT	UPLOAD	LOGIN	REGISTER
----------	----------	---------	--------	-------	----------

SW Project Team One

GENRE ▼

Q

☐ photos ☐ videos ☐ all

Recent Uploads:

Kevin clicks on a picture shown on the homepage which he is interested in, which takes him to the detailed information about the picture. Name, category, price and the owner of the picture will be displayed. Kevin can click on "Contact" next to the owner name in order to contact the owner John Doe. He may click "Buy Now" if he decides to purchase the picture.

WAREHAUS	ABOUT US	CONTACT	UPLOAD	LOGIN	REGISTER
----------	----------	---------	--------	-------	----------

thumbnail
of pic
selected

Title : LA
Genre : City
Price : \$1.00
Owner: John Doe [contact](#)
[BUY NOW](#)

Description:

Kevin wants to purchase the picture, so he clicks on "Buy Now". Because he is an unregistered user, he is sent to the login page. If Kevin has an account, he can provide his username and password in order to login; if Kevin does not have an account yet, he can either click the "Register" button on the upper right corner or click the hyperlink "Register Here," which will lead him to the registration page.

WAREHAUS	ABOUT US	CONTACT	UPLOAD	LOGIN	REGISTER
----------	----------	---------	--------	-------	----------

Login:

Username:

Password:

Don't have an account? [Register here](#)

[Forgot password](#)

If Kevin does not have an account and needs to register, this is the page he will see, he will be asked to provide username and password, and he needs to confirm the password he picks again. Also, he needs to agree with the Terms and Conditions of the Warehaus Media in order to continue.

WAREHAUS	ABOUT US	CONTACT	UPLOAD	LOGIN	REGISTER
----------	----------	---------	--------	-------	----------

Don't have an account ?

Register is easy !

Username :

Password :

Confirm Password :

☐ I agree with Terms and Conditions

Have an account already ? [Login here](#)

5.2 Storyboard 2 - Merchant (Unregistered) User

Margaret has a collection of pictures she would like to sell. She goes to Warehaus and clicks the upload button at the top of the page.

WAREHAUS	ABOUT US	CONTACT	UPLOAD	LOG IN	REGISTER
-----------------	-----------------	----------------	---------------	---------------	-----------------

SW Project Team One

GENRE ▾

🔍

☐ photos ☐ videos ☐ all

Recent Uploads:

pic

pic

pic

Because Margaret does not have an account, she is taken to the registration page where she fills out her email, username, and password, and she clicks the checkbox to agree to the terms and conditions. She then clicks “Submit.”

WAREHAUS	ABOUT US	CONTACT	UPLOAD	LOG IN	REGISTER
-----------------	-----------------	----------------	---------------	---------------	-----------------

Register

Email:

Username:

Password:

Confirm Password:

☐ I agree with Terms and Conditions.

Have an account already? [Log-in Here!](#)

Margaret then arrives at the upload page where she can upload her media.

WAREHAUS	ABOUT US	CONTACT	UPLOAD	MANAGE UPLOADS	SIGN OUT
-----------------	-----------------	----------------	---------------	-----------------------	-----------------

click here to upload

CATEGORY ▼

SET PRICE \$0.00

TITLE

DESCRIPTION

SUBMIT


5.3 Storyboard 3 - Patron (Registered) User

Steve is a frequent customer. When he visits the website, he clicks the login link.

WAREHAUS	ABOUT US	CONTACT	UPLOAD	LOG IN	REGISTER
-----------------	-----------------	----------------	---------------	---------------	-----------------

SW Project Team One

GENRE ▾



☐ photos ☐ videos ☐ all

pic

pic

pic

From here he enters his information and clicks submit

WAREHAUS	ABOUT US	CONTACT	UPLOAD	LOG IN	REGISTER
-----------------	-----------------	----------------	---------------	---------------	-----------------

Log in

Username:

Password:


Forgot your password? [click here](#)

Once logged in, the homepage has been personalized for Steve. He can go off of the website's suggestions to find an image similar to what he already likes.

WAREHAUS	ABOUT US	CONTACT	UPLOAD	MANAGE UPLOADS	SIGN OUT
-----------------	-----------------	----------------	---------------	-----------------------	-----------------

SW Project Team One

GENRE ▾



☐ photos ☐ videos ☐ all

suggested for you:

pic

pic

pic

6. Non-Functional Specifications

1. Application shall be developed using class provided LAMP stack
2. Application shall be developed using pre-approved set of SW development and collaborative tools provided in the class. Any other tools or frameworks must be explicitly approved by Anthony Souza on a case by case basis.
3. Application shall be hosted and deployed on Amazon Web Services as specified in the class
4. Application shall be optimized for standard desktop/laptop browsers, and must render correctly on the two latest versions of all major browsers: Mozilla, Safari, Chrome.
5. Application shall have responsive UI code so it can be adequately rendered on mobile devices but no mobile native app is to be developed
6. Data shall be stored in the MySQL database on the class server in the team's account
7. Application shall be deployed from the team's account on AWS
8. No more than 50 concurrent users shall be accessing the application at any time
9. Privacy of users shall be protected and all privacy policies will be appropriately communicated to the users.
10. The language used shall be English.
11. Application shall be very easy to use and intuitive. No prior training shall be required to use the website.
12. Google analytics shall be added.
13. Messaging between users shall be done only by class approved methods and not via e-mail clients in order to avoid issues of security with e-mail services.
14. Pay functionality (how to pay for goods and services) shall not be implemented.
15. Site security: basic best practices shall be applied (as covered in the class)
16. Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development
17. The website shall prominently display the following text on all pages *"SFSU Software Engineering Project, Summer 2017. For Demonstration Only"*. (Important so as to not confuse this with a real application).
18. Support all current versions of Chrome, Firefox, Edge, and Internet Explorer. Older versions shall not be explicitly supported.

7. Competitive Analysis

	Warehaus Media	Shutterstock	Depositphotos
Filter	+	+	+
Preview	+	+	+
Image	+	+	+
Video	+	+	+
Music	-	+	+
Simple, Clean UI	+	-	-

KEY:

- + Feature exists
- Feature does not exist

8. High-Level System Architecture & Database Organization

8.1 High-Level System Architecture

Web Application stack - LAMP

- Linux operating system
- Apache Web Server
- MySQL Database
- PHP Framework

Deployment - Amazon Web Services (AWS)

- Dependable cloud based web service
- Great scalability and speed

Framework - CakePHP

- Rapid development
- Active community support
- MVC architecture

UI - Bootstrap/JQuery/React

- Cross browser maintainability
- Modularized and encapsulated

MVC Framework

- Modular
- Scalable
- Lightweight and testable
- Maintainable

Media

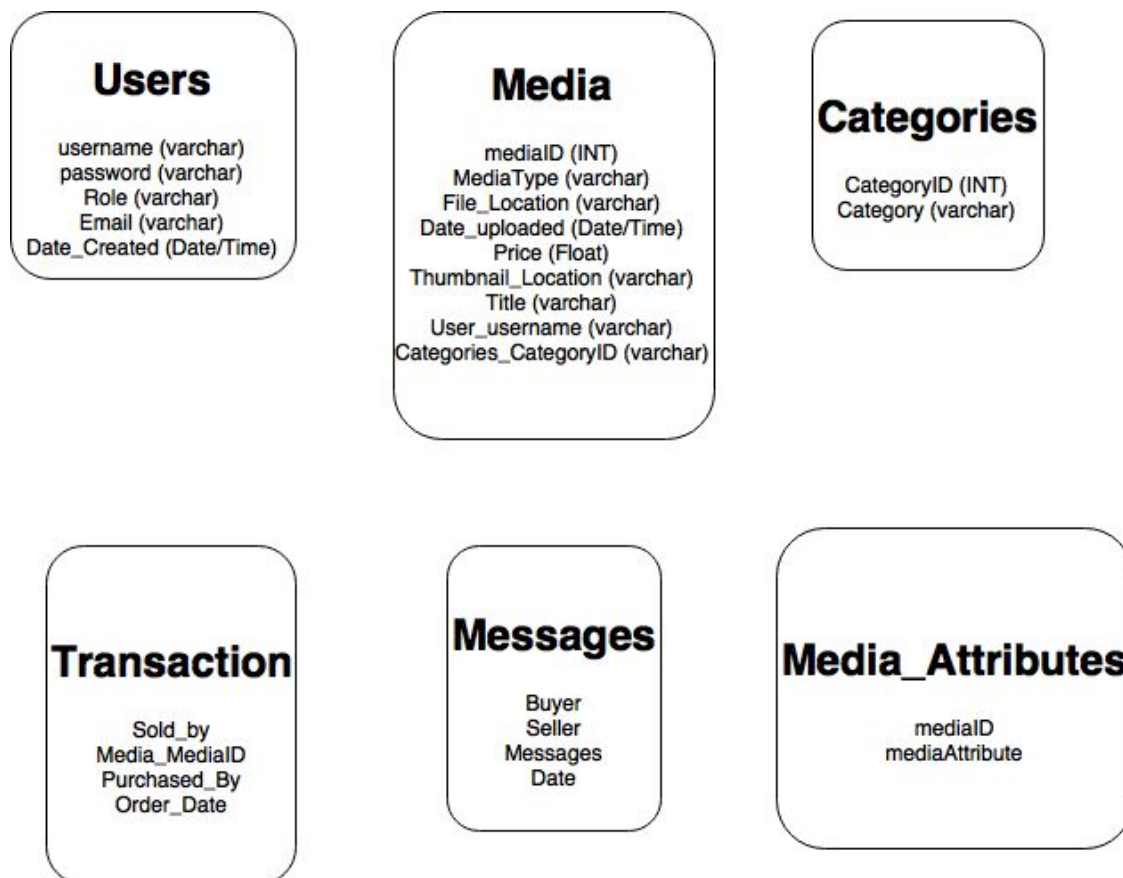
- Image supported formats are JPG,PNG,BMP,BPG
- Video supported formats are AVI,FLV,MP4,MOV
- Images will be accepted in 1280x720 or 1920x1080 resolution
- Videos must have a 720x480 resolution
- Videos and images will be kept within an organized file system

Search

- Search bar will include a drop down menu with category and genre to expedite the searching process
- Search bar will use SQL built in LIKE, BETWEEN, and IN to return fast and correct results

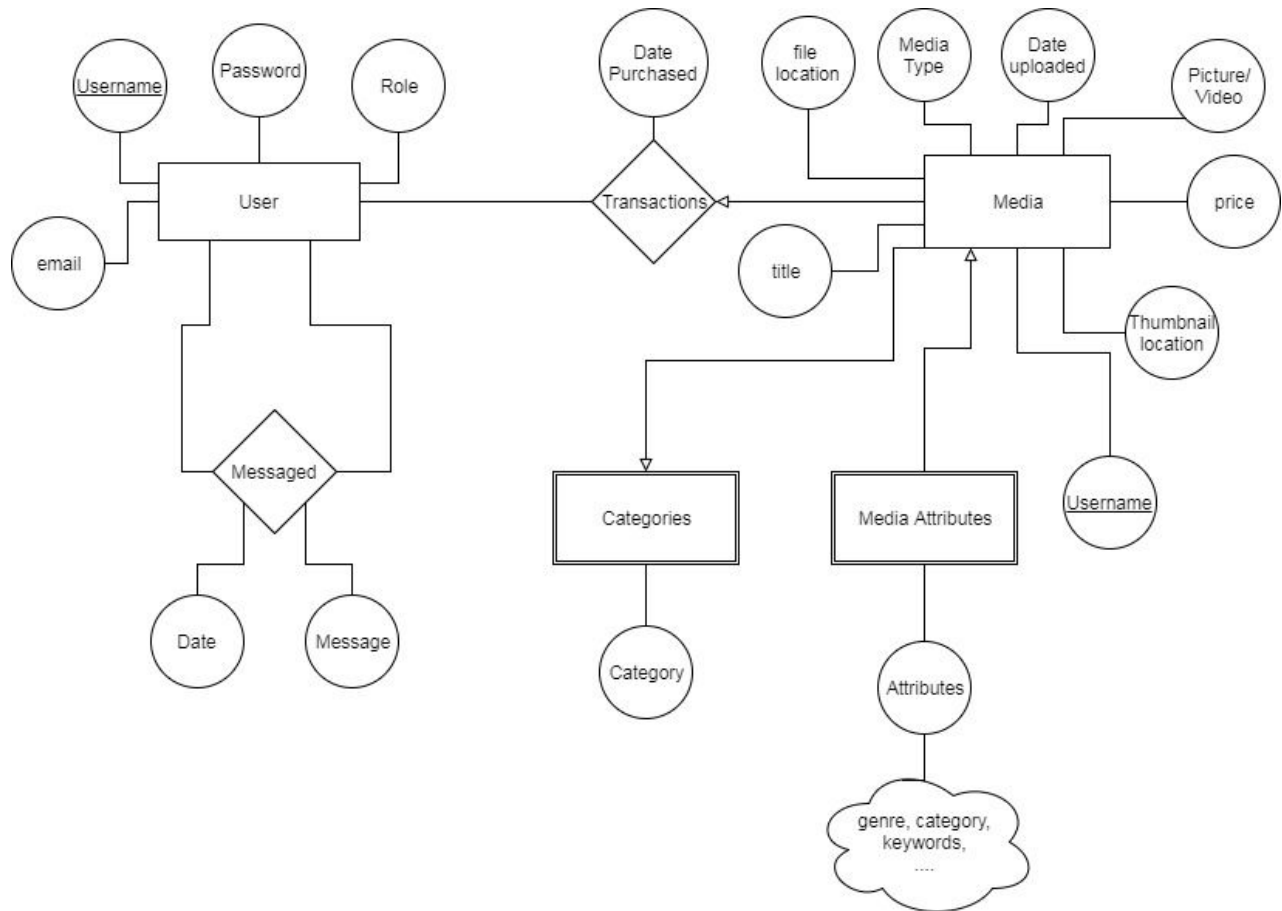
8.2 Database Tables

The database will be comprised of 6 tables: Users, Media, Categories, Transaction, Messages, and Media_Attributes.

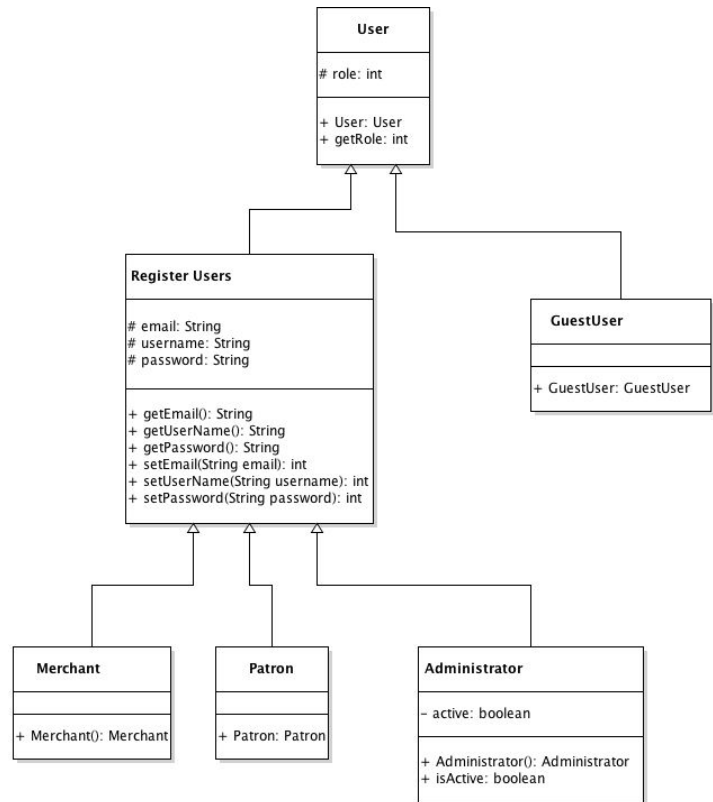
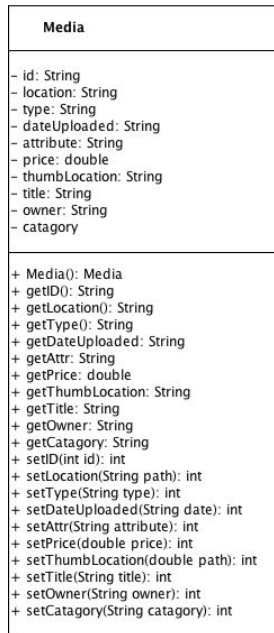


8.3 Entity-Relationship diagram

This ER relationship diagram depicts how these tables will interact with other within the database:



9. High-Level UML Diagrams



10. Key Risks

1. Skills Risk

The team members' skill sets and levels vary greatly, which can be a disadvantage for those who are novices in some areas where a more advanced skill set is necessary. Knowledge transfer will be necessary from more experienced team members to the others, which will be done through various means such as workshops, tutorial sharing, and great communication.

2. Scheduling Risk

Our team members all have different time frames that they are available due to work or other outside activities. Due to conflicting time schedules it can be considerably hard to meet up during the week to go over what needs to be done with the project. One way that we can correct this issue is to agree to conference calls in the late afternoon when everyone is home.

3. Technical Risk

Our individual team members excel at most aspects of the project but it seems that we are currently lacking expertise in the database department. This can cause issues and stalling with the other parts of the project. To correct this problem each team member can work together to understand concepts more deeply and not be afraid to ask the CTO for help.

4. Teamwork Risk

Our individual team members all possess abundant skills. However; sometimes we lack the skill of good communication. This can create issues such as hinderance with branch and pull requests, misunderstanding of the assignments, and frustration. To fix this we can agree to more conference calls, join an online organization website such as trello to monitor activities, and communicate more with the CEO and CTO.

5. Legal/Content Risk

Using photos and videos downloaded from the internet carries a legal risk if any of the team members don't check that the media files are labeled for reuse. To mitigate this risk, the team will only use photos and videos created by fellow team members.

11. Team Organization

Lindsey Anne	CEO (Team Lead)
Josh Reed	CTO (Tech Lead)
Jasmine Mann	Front End Engineer
Tyler Huang	Front End Engineer
Jason Wong	Database Administrator
Bo Li	Back End Engineer
Raymond Feng	Back End Engineer