SW Engineering CSC 648/868

Section 01 Summer 2017

Milestone 1

Team 5

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1. Executive Summary

Society is becoming increasingly visually oriented. Without visual media, people have less desire to engage content. In fact, more than 90% of communication is nonverbal and has become a vital tool for online success. **Picturesque** is a site that wants to reflect this growing trend by allowing users the ability to buy and sell digital media with the intent on leveraging them as tools for maximizing their contents potential.

Our challenge is to satisfy this need by providing a source of rich media where the users can streamline these powerful tools at a click of a button and be reassured that the products provided are professional. This will be made possible with a site that is immediately accessible and a database that contains pre approved content by the author. We hope by using our service our primary users will have at their fingertips the means necessary for interpreting and advertising information. The materials provided on this site will will help them "stand out" and make their ideas stronger through visual aids.

Advertising agencies use these photos and videos in national consumer ads or trade ads which are dispersed among the general public for consumption. Corporations use images and videos in creating their annual reports, in brochures, and in internal magazines. **Picturesque's** mission is to cater to these these institutions and allow them to buy and sell stock photos and videos with ease and to be reassured that the products provided are professional.

The site will provide public photos of a wide range of categories relevant to today's world and culture. An open range of content will give us a significant advantage by being able to grow in many different ways. The site will be expected to be used by general users, approved users, authors, and admins. The item listings will provide the user with a price, description and keywords along with several photos to preview. Prices will range for $1-$100 depending on the content. As a company we strive to provide the best quality products and to ensure that quality with the help of our admins.

The team developing this platform consists of seven students who are all Computer Science majors attending San Francisco State University. They are experienced in software development and with These students are all dedicated to providing the best experience for users and are willing to do anything it takes to make this project successful. There is plenty of communication and productivity in this development team that will lead this product to be successful.

2. Use Cases

- Registered/Unregistered User

John is a **general visitor** who plans to purchase some media for their project. He is able to view low quality videos and pictures to decide whether or not he is willing to buy. In order to purchase the products, he would have to provide certain information to become a **registered user**, which allows him the rights make purchases. After searching through a few authors' library, John finds that he likes the pictures from the author, Jane. Sadly he cannot see all pictures Jane has uploaded until he becomes an **approved user** by Jane. John is now able to view all of Jane's pictures and even comment on them.

- Search

Being able to view media is great and all, but John wants to also **search** for specific media that he can use. Using **keywords**, John is able to look for more precise media than just browsing randomly. If the author or title is known, then that can make the search even easier because he will know that he finds what he is looking for. However, nothing is perfect, if John is unable to find what he wants, he can see if there are any recommendations based on what he has searched.

- Admin/Author

John has finished his project and would like to upload his own pictures so others can enjoy his work and possibly purchase them. The **admin** sees that John has uploaded an inappropriate photo and prevents the photo from being uploaded. John then receives a message stating why his photo was not uploaded and is prompted to change his photo. **Authors** that wish to publish inappropriate content will be advised by the admin to change their content, otherwise their account will terminate and they will revert back to a general visitor.

3. Data Definition

➤ **General Visitor**: can browse public photos with low resolution, cannot download them and cannot add any comments. Does not need to register/login.

➤ **Registered User**: can access all photos (excluding private photos) with high resolution, can add comments and can add into own list. Need to register/login.

➤ **Approved User**: can access all photos explicitly approved by the author, , can add comments and can add into own list. Need to register/login and apply for author's approvement.

➤ **Author**: person who uploads photos and owns copyrights on the site. Need set item public or private and deal user's approvement request. Need to register/login.

➤ **Admin**: can access all data and modify the database. Need to register/login.

➤ **Public photos**: can be browsed by anybody with low resolution and can be access by registered user with high resolution.

➤ **Private photos**: can be access by user who is approved by author.

➤ **Item**: price, title, description, tags(location, event...etc), keywords(for search), comments and photo.

➤ **Author credit**: can achieve by post photos and can be used to purchase photos or get discount.

➤ **User credit**: can achieve by purchasing items and can be used to purchase photos or get discount.

➤ **ROI（region of interest)**: user can set which part he is intersted in when he register.

➤ **Watch list**: user can add favourite author into list in order to easily watch their posts ASAP.

➤ **Follow list**: author can see person who watch him.

➤ **Browse record**: record those images which user browse, used to recommend user's preferred contents.

➤ **Purchase history**: record all information(price, date, author...etc) of item which user purchased.

➤ **Thumbnails**: for users to quickly browse images with reduced-size version. Used to help in recognizing and organizing items, serving the same role for images as a normal text index does for words. In the age of digital images, visual search engines and image-organizing programs normally use thumbnails, as do most modern operating systems or desktop environments, such as Microsoft Windows, Mac OS X, KDE (Linux) and GNOME (Linux).

4. Initial List of Functional Requirements

- General User
    - Media Search: Allow users to search for the products they are looking for
    - User Registration: General User will be able to register a new account or log in to existing account
    - Purchase the product (as guest)
- Registered User
  With all the functions that general user has plus:
    - Messaging feature: Leave message to product's owner
    - Product Rating and comment
    - Access to post new product
    - Purchase history
    - View all their post history
    - Delete/Modify their old post
- Administrator
  With all the functions that registered user has plus:
    - Access to all users posts
    - Delete/Modify all users posts
    - Access to all purchase history

5. Non Functional Requirements

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, Spring 2017. For Demonstration Only"*. (Important so as to not confuse this with a real application).

6. Competitive Analysis

Feature	Alamy	iStock	Fotolia	Picturesque
Browse	+	+	+	+
Text search	+	+	+	+
Reverse image search	-	+	-	+
Shopping cart	+	-	+	+
Credit	-	+	+	+
Subscription	-	+	+	+
Guest checkout	+	+	-	+

+ Feature exists

++ superior

- does not exist

      The goal of **Picturesque** is to provide a rich source of photos and videos. Our target audience is the general public ranging from individuals to organizations. After analyzing the features provided by our three competitors, we discovered each competitor lacks at least one feature the other competitors provide. Our strategy involves bringing the best features from all our competitors to Picturesque. Such features include the credit and subscription plans (which Alamy lacks) to attract a loyal customer base; by allowing registered customers to purchase products at slightly lower rates through these plans. However we will also allow guest checkout for customers who wish to just do a swift purchase. Reverse image search will be a last priority feature once all other features are functioning.

7. High-level system architecture

Software Components:

- Operating system: Linux Ubuntu 16.04.2
- HTTP server: Apache/2.4.18 (Ubuntu)
- Database management system: MySQL
- Server-side programming language: PHP 5.6 or higher

Collectively known as the LAMP stack, the combination of Linux, Apache, MySQL, and PHP offers a stable and scalable platform upon which to build database-driven web applications.

Frameworks:

- CakePHP - is a rapid development framework for PHP which uses commonly known design patterns like Front Controller and MVC. Primary goal is to provide a structured framework that enables PHP users at all levels to rapidly develop robust web applications, without any loss to flexibility.
- Bootstrap - an open-source framework for creating responsive mobile-first websites. It contains HTML- and CSS-based design templates for typography, forms, buttons, navigation and other interface components. Using Bootstrap as a frontend framework ensures compatibility with the following web browsers: Chrome, Safari, Firefox, Opera, and Internet Explorer.
- jQuery - technically a JavaScript library, jQuery will simplify any client-side scripting used for our website.

IDE: NetBeans - an open-source, multi-language Integrated Development Environment (IDE) that provides tools for editing, debugging and deploying code.

Browser Version Support:

- Internet Explorer (IE11, IE10 or higher)
- Google Chrome (51.0.3029.110 or higher)
- Mozilla Firefox (47.0, 45.2.0esr)
- Safari (9.1, 8.0.8 or higher)
- Opera (37, 36 or higher)

Version Control: GitHub

8. Team

Frontend	Tiffany, Ivan, Andy
Backend	Teng, Andrew, Andy
Database	Cody, Andy
UI/UX	Calvin

9. Checklist

- Team decided on basic means of communications: **DONE**

- Team found a time slot to meet outside of the class: **ON TRACK**

- CTO chosen and working out well so far: **DONE**

- Github master chosen: **ON TRACK**

- Team ready and able to use the chosen framework: **ON TRACK**

- Skills of each team member defined and known to all: **ON TRACK**

- Team lead ensured that all team members read the final M1 and agree/understand it before submission: **DONE**