Adventure Works Photo Sharing Web Application (Proposed)

# Introduction

The Adventure Works board has asked the authors to investigate the possibility of building a public photo sharing web application, on which Adventure Works customers can share photographs of the rides, bikes, other equipment, and any other pictures. The objectives of this site are to create a community of Adventure Works equipment users and encourage customers to participate in sharing their experiences.

We have interviewed board members, customers, web application administrators, and other stakeholders and present in this document a proposal for a suitable web application and its broad functionality. We have included:

* A general description of the proposed web application and its intended functionality.
* A series of use cases that describe tasks, which customers can complete in the photo sharing web application.
* Transcripts of interviews with customers.
* Some technical recommendations.

The authors hope that this document defines the scope of the web application clearly, enables board members to approve the development of the project, and provides all the information developers need to begin their work.

**Note:** This document is not intended to be a final description of the web application that will be created. As the project progresses, extra functionality may be added, and the specifications given in this document may be refined. These changes must be made in consultation with stake holders. The project managers need to make the final decisions on such additions and refinements.

# General Description of the Photo Sharing Web Application

The proposed photo sharing web application must enable users to upload, share, and discuss photographs. Users must be able to:

* Upload a photo that they have taken. Photos should be in a common image format but will usually be JPEGs.
* Add to their photos titles, descriptions, and other metadata.
* Remove photos.
* View individual photos in a large size.
* Add comments to photos.
* Browse through all the photos in the site.

The web application should be available for any visitor to browse photos without logging on. This can act as an advertising opportunity for Adventure Works equipment because those without credentials for the site can see bikes in action and a vibrant user community. Anonymous users, however, should not be enabled to make any changes to the photos or add comments on the site: this requires a user account.

Although the photo sharing web application is not considered critical to Adventure Works, a certain level of resilience to server failures and other disasters must be required for the following reasons:

* If the photo sharing site is unavailable, customers can purchase products on the main Adventure Works Internet site. Customer participation is the main objective of the web application and an unreliable site can annoy customers or discourage customer participation.
* It is difficult to predict the load placed on web servers by the photo sharing web application because we can only make a guess on the number of customers who might choose to participate at this point in the project.
* The load placed on web servers by the photo sharing web application may change at short notice at certain times of year. For example, after Christmas, when many new products have been sold, several new customers may start participating in photo sharing.

# Use Cases

The following use cases describe scenarios in which customers use the proposed photo sharing web application. All core functionality has been included in these use cases but they should not be considered definitive. As development progresses extra functionality may be added at the discretion of the project managers.

## Use Case 1: Browsing Photos

When a visitor browses photos in the web application, the following steps take place:

1. The site visitor enters the site as an anonymous user at the home page or clicks the **Home Page** link in the menu.
2. The home page displays thumbnails of the most recently added photos in the web application. For each photo the title, owner, and created date is displayed.
3. If the anonymous user wants to see all the photos in the site, the user clicks the **All Photos** link on the main menu.
4. The web application displays the photo gallery with thumbnails of all photos in the list. For each photo the title, owner, and created date is displayed.
5. If the anonymous user wants to see a photo at full size, the user clicks the photo thumbnail or the **Details** link for that photo.
6. The web application displays the chosen photo at full size. The photo title, owner, description, created date, and comments are also displayed.

## Use Case 2: Adding a Comment to a Photo

Only authenticated customers should be able to add comments to a photo. When a customer adds a comment to a photo, the following steps take place:

1. The customer clicks on the **Details** link below a photo or clicks a photo in the photo gallery.
2. The web application displays the chosen photo at full size. The photo title, owner, description, created date, and existing comments are also displayed.
3. The customer clicks the **Add a Comment** link. If the user has already logged on, the web application displays a form for comment details.
4. If the user is anonymous, the logon page is shown and the user provides credentials.
5. If the credentials are correct, the web application displays a form for comment details.
6. The user fills in content for the subject and fills in the content for his comment.
7. The user clicks **Submit**.
8. The web application displays the chosen photo at full size with all comments and other details. The new comment is displayed at the bottom of the list of comments with the name of the user that created it.

## Use Case 3: Adding a Photo

When a customer adds a photo to the web application, the following steps take place:

1. The user clicks the **Add Photo** link on the main site menu.
2. If the user is anonymous, the logon page is shown and the user provides credentials.
3. If the credentials are correct the **Create Photo** page is displayed.
4. The user types a title.
5. The user specifies the photo file to upload.
6. The user optionally types a description for the photo.
7. The user clicks the **Upload** button.
8. The web application stores the new photo and displays the photo gallery to the user.

## Use Case 4: Deleting a Photo

When a customer deletes a photo from the web application, the following steps take place:

1. The customer clicks the **Log On** link on any page in the web application.
2. The logon page is shown and the user provides credentials.
3. If the credentials are correct the home page is displayed.
4. The customer clicks on a **Details** link or a photo in the photo gallery.
5. The web application displays the chosen photo at full size. The photo title, owner, description, created date, and comments are also displayed. If the customer is authenticated and the owner of the current photo has the same username as the customer, the **Delete this Photo** link is displayed.
6. The customer clicks the **Delete this Photo** link.
7. The web application requests confirmation.
8. If the customer confirms the deletion, the photo is removed from the database together with all the comments about it.
9. The web application displays the photo gallery to the customer.



Figure 1: Use Case Summary

# Customer Interview Transcript

On the 20th of October 2017, the authors interviewed Mark Alexieff, a long term customer of Adventure Works. He is a keen photographer as well as a cyclist and is enthusiastic about the proposed web application. The authors have included this interview here because we feel that Mark has good ideas about how the web application should look and behave, which can guide developers as they create webpages.

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| ***Authors:***  *Tell us about your mountain biking.*  ***Mark Alexieff:*** *I’ve been riding for twenty years. I currently live in Albany, NY, and ride every weekend, usually in the Catskills but sometimes further afield.*  ***Authors:*** *And do you take photos?*  ***MA:*** *Yes! I guess I’ve been taking photos for all of that time.*  ***Authors:*** *Just snaps or something more serious?*  ***MA:*** *Well, I try and take it seriously. I have a DSLR and shoot maybe 50 shots in the average day. A lot of landscapes obviously, but I also like to shoot action shots of my friends as they ride.*  ***Authors:*** *Do you share those photos on Internet sites?*  ***MA:*** *I use Flickr quite a lot, but I’d be interested to use a site just for mountain bikers.*  ***Authors:*** *What information would you want to see with each photo?*  ***MA:*** *The photo is the most important thing. I’d like to see everything else kept to a minimum.*  ***Authors:*** *But surely you need to know who took a shot and so on?*  ***MA:*** *Yeah, you need a few things. You should be able to add a title to your photos and that title should be really clear whenever the photo is displayed.*  ***Authors:*** *Both for thumbnails and for full-size displays?*  ***MA:*** *I think so. Also, I’d want to see who took each shot wherever it’s used. Other information like the date it was taken is less important but you should be able to find it when you’re interested.*  ***Authors:*** *Right. What else do you think you’d like to tell other users about your photos?*  ***MA:*** *Well I think the best option is to apply one big description. That way, if you want talk about where the shot was taken, who’s in it, what the weather was like, you can add it. It’s nice to add context like that.*  ***Authors:*** *Would you like to store technical information about the shot?*  ***MA:*** *Like what?*  ***Authors:*** *I was thinking of exposures, apertures, flash settings…*  ***MA:*** *Speaking for myself, no. I almost never record that stuff at the time because I want to carry on riding. I do know photographers that religiously write it down, or get it from their camera, but not me.*  ***Authors:*** *So maybe we should provide optional fields for it?*  ***MA:*** *We already talked about a description being available. If someone wants to share such information, they can use that, can’t they?*  ***Authors:*** *Yes. OK. Do you like borders around photos?*  ***MA:*** *Sometimes. It depends on the photo. Could you give me a choice?*  ***Authors:*** *Possibly. You’d like to be able to pick a color for your border?*  ***MA:*** *It would almost always be black or white on a web application. Or nothing. You should be careful about the colors you use as well.*  ***Authors:*** *In what way?*  ***MA:*** *Try to be neutral. If you have a bright background color behind photos it will really change their impact. In fact I’d say don’t use a border and make the background color either black or white. Grey might OK.*  ***Authors:*** *OK. What about comments… would you like to see them on the right of a photo?*  ***MA:*** *Under the photo, definitely. Most of the time, I’m not interested in comments. I read comments only if I want to know where it was shot or the names of the people in the photo. Certain photos get me more interested and then I can scroll down to see the comments. Most of the time, I don’t want comments to distract me.* |

# Technical Requirements

The web application should meet the following technical requirements:

* *95% Up Time:* The site should be available at least 95% of the time. Any software updates, hardware changes, failures and disasters should not affect this minimum availability.
* *Protected Credentials:* Usernames and passwords should not be exchanged in plain text.
* *Protected Personal Details:* Users personal data, such as addresses, telephone numbers, and credit card numbers, must not be available to anonymous access.
* *Scalability:* No estimate has yet been made of the expected number of concurrent users or the quantity of data that must be stored. However, the architecture used to host the web application must be capable of scaling rapidly to cope with times, when large numbers of new users register and upload photos.