Photo Gallery App

Functional Specifications as User Stories:

Using the format

> As a <User Role> I want/like to <function > so that <benefit>

listed below are the user stories for the Photo Gallery app:

User Story 1

> As a <photographer> I want <the pictures that I take using a smartphone to be automatically timestamped and geotagged> so that <I could focus more on photography and less on cataloging>

User Story 2

> As a <photographer> I would like to <assign a caption for any captured picture> so that <I can later remember why or on what occasion I took this picture>

User Story 3

> As a <photographer> I would like to <search pictures based on time, location and/or keywords> so that <I could find pictures based on where, when, why or on what occasion>

User Story 4

> As a <blogger> I <want pictures to be uploaded to my website> so that <it reaches larger audience>

Acceptance Criteria:

Feature: Take Picture
    Scenario: User Story 1
            Given I am at the gallery screen of the PhotoGallery app
            When I press the button labeled "Snap"
            Then I see the view of the android camera app
            When I take a picture using the android camera app
            Then I go back to the main screen of the PhotoGallery app
            And see the picture just taken
            And the current time
            And the current location

Feature: Assign Caption
    • Scenario: User Story 2

            Given I am at the Gallery screen of the PhotoGallery app
            And I see an editable text view labeled "caption" next to the picture
            When I edit the caption by typing "My Test Caption"

Then I see the new caption "My Test Caption"
When I scroll away from the picture
And scroll back to the picture
Then I see the new caption "My Test Caption"

Feature: Search Pictures
- Scenario: User Story 3

Given I am at the Gallery screen of the PhotoGallery app
When I press the filter button
Then I see the Search screen of the PhotoGallery app
And I see a field labeled StartDate
And I see a field EndDate
When I enter Today as StartDate
And I enter Today as EndDate
And I press the button labeled "Search"
Then I see the gallery screen of the PhotoGallery app
And I see the pictures that have Today as the creation date

Given I am at the Search screen of the PhotoGallery app
And I see the field labeled Top Left corner of the search area
And I see the field labeled Bottom Right corner of the search area
When I enter current location in the Top Left corner of the search area
And I enter current location in the Bottom Right corner of the search area
And I press the button labeled "Search"
Then I see the gallery screen of the PhotoGallery app
And I see the pictures that were taken at the current location

Given I am at the Search screen of the PhotoGallery app
And I see editable text view labeled "keywords"
When I type characters "My Test Caption"
And I press the button labeled "Search"
Then I see the gallery screen of the PhotoGallery app
And I see the pictures with the Caption "My Test Caption"

Feature: Upload Picture
Scenario: User Story 4
Given I am at the gallery screen of the PhotoGallery app
And the smartphone indicates wireless coverage
And I see the button labeled "Upload"
And the button "Upload" is enabled.
When I press the button "Upload"
Then I see the button change its label first to "Uploading"
And then to "Uploaded"
And become disabled.
When I check my blog

Then I see the picture on my blog.

Functional Specifications based on IEEE 29148/830:

FS 1: Upon user pressing the snap button of Figure 1.a, the application shall allow the user to take a picture using the onboard smartphone camera and display the captured picture in the gallery view of Figure 1.a along with the current date, current location and a globally unique ID.

FS 2: The app shall allow the user to assign a caption to the picture or edit an existing caption.

FS 3: The user shall be allowed to search pictures based on time, location and keywords as follows:

- o For the date based search, the user shall be allowed to specify a start date and an end date as illustrated in Figure 1.b. Upon user specifying the time filter and pressing the search button, the gallery shall display only the pictures that were created during the specified time window.
- o For the location based search, the user shall be allowed to specify the Latitude and Longitude, in units of degrees, of the top left corner as well as the bottom right corner of the search area, as illustrated in Figure 1.b. Upon user specifying the search area and pressing the search button, the gallery shall display only the pictures whose location meta-tags lie in the specified search area.
- o For caption based search, the user shall be allowed to specify text as illustrated in Figure 1.b. Upon user specifying a keyword and pressing the search button, the gallery shall display only the pictures whose captions contain the specified text. The "Caption Matching Criteria" is defined in the definitions section.
- o If more than one filter is specified, the gallery shall display only the pictures that match all the specified filters.

FS 4: Pressing the upload button shall upload the corresponding picture to the user's blog. If a picture was successfully uploaded it shall be tagged as such and the upload button shall be disabled when such picture is being displayed in the gallery view of Figure 1.a. The system shall display error message "Upload Failed" otherwise.

Test Cases:

ID	Testing Environment	Initialization	Finalization	Activities	Expected Results	Actual Results
1	An SD Card equipped Android smartphone that can support API level 7 PhotoGallery app is deployed.			PhotoGallery app is invoked and the gallery view is in the foreground. Press snap button. Restart the smartphone and the app. Scroll through the PhotoGallery.	A picture with globally unique ID, Current Location and Current Date is displayed in the PhotoGallery The picture taken earlier shall exist in the gallery.	
2	Same as above			PhotoGallery app is invoked and the gallery	Picture has the revised caption	

			view is in the foreground. Edit the caption of the picture being displayed.	
			Restart the smartphone and the app. Scroll through the PhotoGallery.	Picture has the revised caption
4	Same as above	The storage of PhotoGallery app contains a test collection of pictures with known times, locations and GUIDs	Press the Filter button on the gallery view of the PhotoGallery App. Specify the StartDate and EndDate using Calendar views of the Time Filter and press search button.	The pictures taken during the specified time window are displayed in the Gallery.
			Press the Filter button on the gallery view of the PhotoGallery App. Specify the Top Left corner and the Bottom Right corner of the search area using the Google Map views of the Location Filter. Time Filter and press search button.	The pictures taken within the search are displayed in the Gallery view.
			Press the Filter button on the gallery view of the PhotoGallery App. Specify keywords in the editable text view captioned Keywords and press search button.	The pictures with captions matching the keywords are displayed in the Gallery.
4.	In addition to the above, wireless connectivity is enabled. The server hosting the blog is up and running. The credentials to access the blog are available to the app.		PhotoGallery app is invoked and the gallery view is in the foreground. Scroll to the picture whose upload button is enabled. Press the upload button.	The label of the button will change to uploading before finally changing to Uploaded and becoming disabled. The picture is displayed in the blog with GUID, location, time and caption.
			Switch off the wireless connectivity or turn off the server hosting the blog if possible and repeat the above step.	The application shall display "Upload Failed"