

A screenshot of a web-based photo campaign platform. At the top, it shows "Photo Campaign", "Campaign", and "Users", along with a user icon "r@b.com". The main content area has a heading "Welcome to the photo campaign web platform". Below this is a post titled "Fifth Post" with a timestamp "May 15, 2014 2:18:51 PM / CampaignID: CAMP-NR2". The post contains a photo of a person climbing, identical to the one in the mobile app. Below the photo, the caption reads "Fifth post by KL :)" and "by Kevin Likelehood". A "View Details" button is at the bottom.

Photo campaign platform: presentation of functionality and system architecture

Prepared for: Mobile Application elective final mandatory assignment

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Notice: the screenshots presented in this document represent the current state of the web & iOS application and may have been improved or extended in the meantime. (Differences may be visible on photocampaign.net)

INTRODUCTION

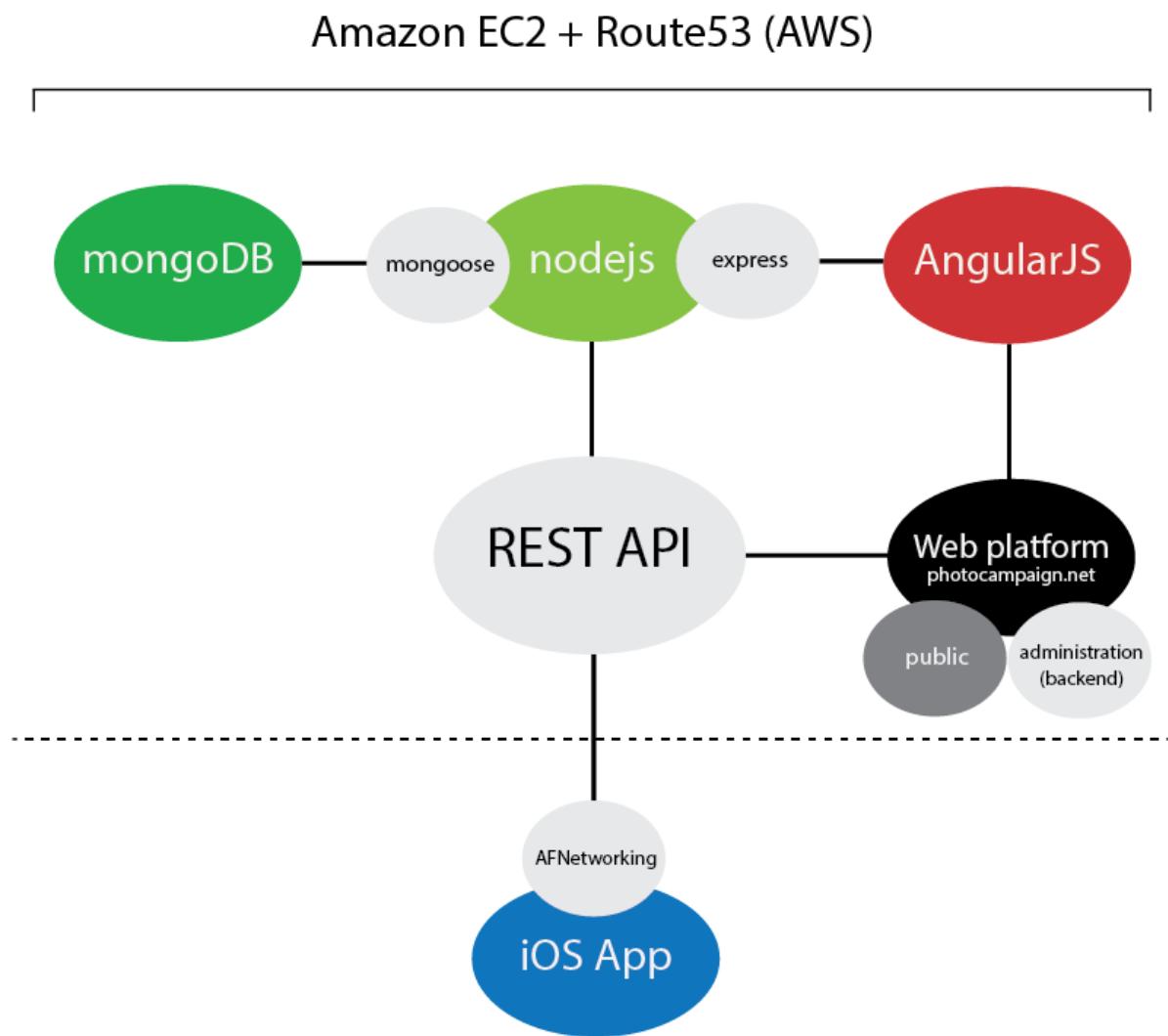
The following document contains diagrams and screen dumps illustrating the functionality of both the web and iOS application.

A **video** demo of the entire platform is available at youtube.com/watch?v=xlu2rq1LZaY

The video begins with the presentation of the web platform, then continues with describing technical information (code explanations for the web back-end and front-end). Following, a short iOS code explanation is provided and finally the iOS app is demoed in relation to the web platform.

It is recommended that the video is watched after reading this document.

ARCHITECTURE OVERVIEW



The above diagram shows how the infrastructure of the platform is organised. Web servers are hosted by Amazon on a ElasticCloud2 instance. Deployed on it are a nodejs server and a NoSQL database provided by MongoDB. The nodejs server communicates with the database through mongoose, a package that allows data modelling to be done as well as model validation.

The back-end routing and MVC logic is provided by Express, a nodejs web application framework. Finally, the web platform itself (on photocampaign.net) is built with AngularJS, a front-end framework that allows also the front-end code to perform according to a MVC pattern.

The express back-end exposes a REST API that is used by both the web and iOS application. The iOS application uses AFNetworking (a third-party library) to communicate with the REST API. The iOS app saves data received from the API in plist files.

REST OVERVIEW

In the illustration below the main methods of the REST API are shown. The diagram depicts what requests and methods are implemented for Campaigns, Posts and Users.

CreateReadUpdateDelete (authenticate)

Campaigns

```
app.get('/campaigns')          -> campaigns.list
app.get('/campaigns/:campaignId') -> campaigns.read
app.put('/campaigns/:campaignId') -> campaigns.update
app.post('/campaigns')          -> campaigns.create
```

Posts

```
app.get('/posts')              -> posts.list
app.get('/posts/:postId')       -> posts.read
app.post('/posts')             -> posts.create
app.del('/posts/:postId')      -> posts.delete
```

Users

```
app.get('/users')              -> users.list
app.get('/users/me')            -> users.me
app.put('/users')               -> users.update
app.post('/users/password')     -> users.changePassword

app.post('/auth/signup')        -> users.signup
app.post('/auth/signin')        -> users.signin
app.get('/auth/signout')        -> users.signout

app.put('/users/assign-campaign/:userId') -> users.assignCampaign
```

WEB FRONT-END AND BACK-END INTERFACE

photocampaign.net

The web front-end is a hub of all posts from all campaigns for users that are not authenticated. Once a user logs in, only posts from his current campaign (or campaigns) are shown.

Photo Campaign Campaign Users r@b.com ▾

Welcome to the photo campaign web platform

May 15, 2014 2:18:51 PM / CampaignID: CAMP-NR2

Fifth Post



Fifth post by KL :)

by Kevin Likeleehood

[View Details](#) 

Photo Campaign Campaign Users r@b.com ▾

Fifth Post by Kevin Likeleehood



Description
Fifth post by KL :)
by *Kevin Likeleehood*

Created
May 15, 2014 2:18:51 PM

Campaign
CAMP-NR2

[Delete](#)

Each post can be viewed in detail and if authorized, it can be removed by the current logged-in user. The detailed view shows the title, description, author (name and surname), created date and campaign identifier. In later versions, detailed views will include comments as well as user and judge ratings.

Photo Campaign	Campaign	Users	r@b.com ▾
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User list

Registered: May 18, 2014 1:38:57 PM / CampaignID: CAMP-NR2

Demo User User
d@u.com

Registered: May 15, 2014 2:22:27 PM / CampaignID: CAMP-NR2

George Clinton
g@c.com

Registered: May 15, 2014 2:16:52 PM / CampaignID: CAMP-NR2

Kevin Likelehood
k@l.com

Registered: May 13, 2014 5:49:22 PM / CampaignID: CAMP-NR2

Weuer Wer
Johndoe@gmail.com

Registered: May 12, 2014 11:14:14 PM / CampaignID: CAMP-NR2

Ron Benchmark
r@b.com

Photo Campaign	Campaign	Users	r@b.com ▾
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Edit your profile

First Name
Ron

Last Name
Benchmark

Email
r@b.com

Bio:
Your bio

Save Profile

Administrators have access to a user page, which functions as an overview of the currently registered users. The REST API supports user CRUD operations, but users can only edit their own account information as of this version.

Additionally to the profile page, the users have access to a password change page from the top-right menu.

The screenshot shows a user profile page with a navigation bar at the top. The navigation bar includes links for "Photo Campaign", "Campaign", and "Users". On the far right, there is a dropdown menu with the email "r@b.com" and options for "Edit Profile", "Change Password", and "Signout". The main content area features a large heading "Welcome to the photo campaign web platform".

Administrators also have access to a campaign overview. Once a new campaign is created, it will appear in a list and can be edited at any time.

The screenshot shows a campaign overview page with a navigation bar at the top. The navigation bar includes links for "Photo Campaign", "Campaign", and "Users". On the far right, there is a dropdown menu with the email "r@b.com". The main content area has a title "Campaign". Below the title, there are two campaign entries. Each entry includes details like Start date, End date, ID, DatabaseID, and a "View Details" button. The first entry is for "Second Campaign" with the description "Description for the second campaign.". The second entry is for "Campaign 1" with the description "Campaign description".

Photo Campaign Campaign Users r@b.com ▾

Edit Campaign

Title
Second Campaign

Rules:
Second campaign rules.

Description:
Description for the second campaign.

ID
CAMP-NR2

Start Date
01/05/2014

End Date
31/05/2014

Update campaign

Deleting a campaign can also be done when viewing its details.

Photo Campaign Campaign Users r@b.com ▾

Second Campaign

Rules
Second campaign rules.

Description
Description for the second campaign.

ID
CAMP-NR2

Campaign period
2014-05-01 - 2014-05-31

Edit **Delete**

If no campaign is active, users will be registered without belonging to one and can be assigned to a campaign later on. This implemented functionality comes in useful when a campaign expires and its users can be re-allocated to another campaign. By doing this, users don't have to register again.

Photo Campaign Campaign Users no-campaign@user.com ▾

Campaign

There is no campaign added yet. The first step in configuring the website is adding a campaign. [Add a new campaign.](#)

Photo Campaign Signup Signin

Sign up

First Name
First Name

Last Name
Last Name

Email
Email

Password
Password

Sign up or **Sign in**

Photo Campaign Campaign Users no-campaign@user.com ▾

User list

User no-campaign@user.com successfully assigned to campaign (DBID): 5379c3ad9519e6d81b901cbc

Registered: May 19, 2014 10:40:31 AM
This user is not assigned to any campaign. In order for a user to post, a campaign needs to be created and the user assigned to it. [Assign to campaign](#)

Jack Roberts
no-campaign@user.com

Registered: May 12, 2014 8:44:41 PM
This user is not assigned to any campaign. In order for a user to post, a campaign needs to be created and the user assigned to it. [Assign to campaign](#)

Dan Mindru
mindrudan@gmail.com

The entire application is built on Twitter Bootstrap's grid system. This results in a responsive user interface that works great on mobile devices. The responsive interface becomes very useful when it comes to signing-up on the platform, an action that is currently supported only on the web (not in the iOS app).

Photo Campaign ≡

Signup
Signin

May 15, 2014 2:18:51 PM /
CampaignID: CAMP-NR2

Fifth Post



Fifth post by KL :)
by Kevin Likeleehood

[View Details](#)

Photo Campaign ≡

Signup
Signin

Sign up

First Name

Last Name

Email

Password

[Sign up](#) or [Sign in](#)

Other mobile views presented below: (user list left, editing a campaign on the right)

Photo Campaign 

Campaign

Users

j@w.com ▾

User list

Registered: May 18, 2014 1:38:57 PM /	CampaignID: CAMP-NR2
Demo User User d@u.com	
Registered: May 15, 2014 2:22:27 PM /	CampaignID: CAMP-NR2
George Clinton g@c.com	

Photo Campaign 

Edit Campaign

Title: Second Campaign

Rules: Second campaign rules.

Description: Description for the second campaign.

ID: CAMP-NR2

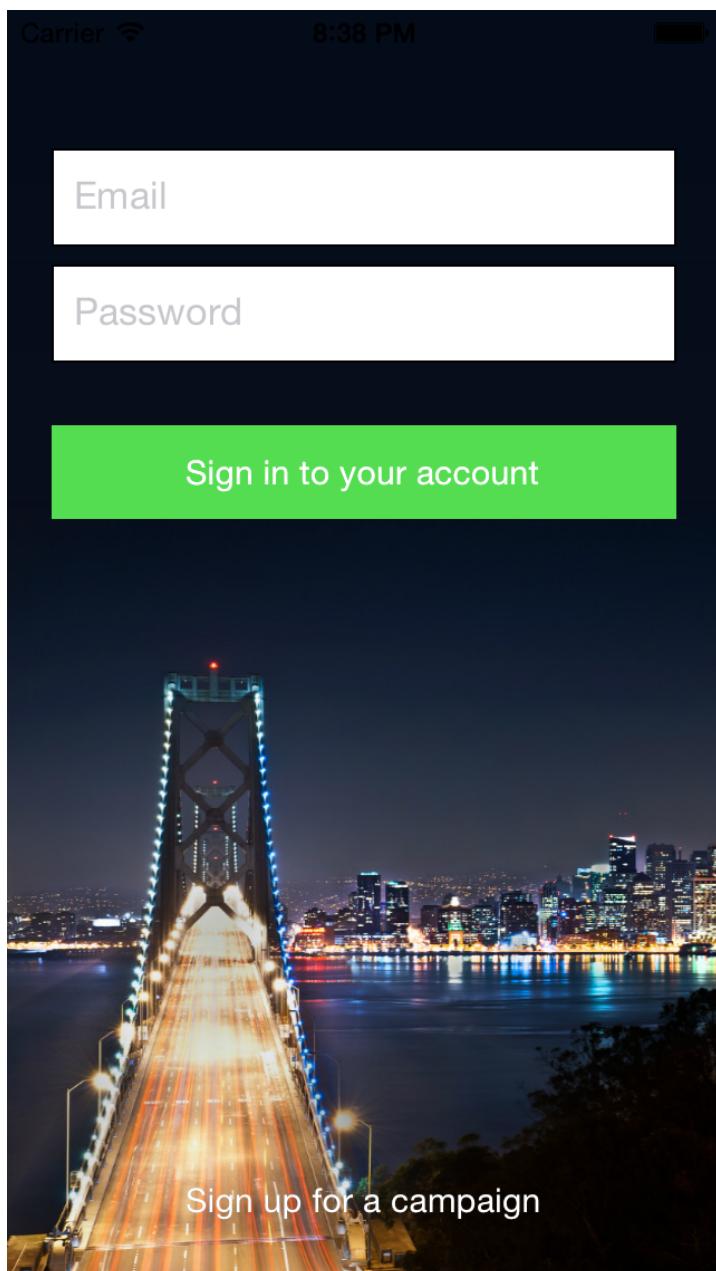
Start Date: 01/05/2014

End Date: 31/05/2014

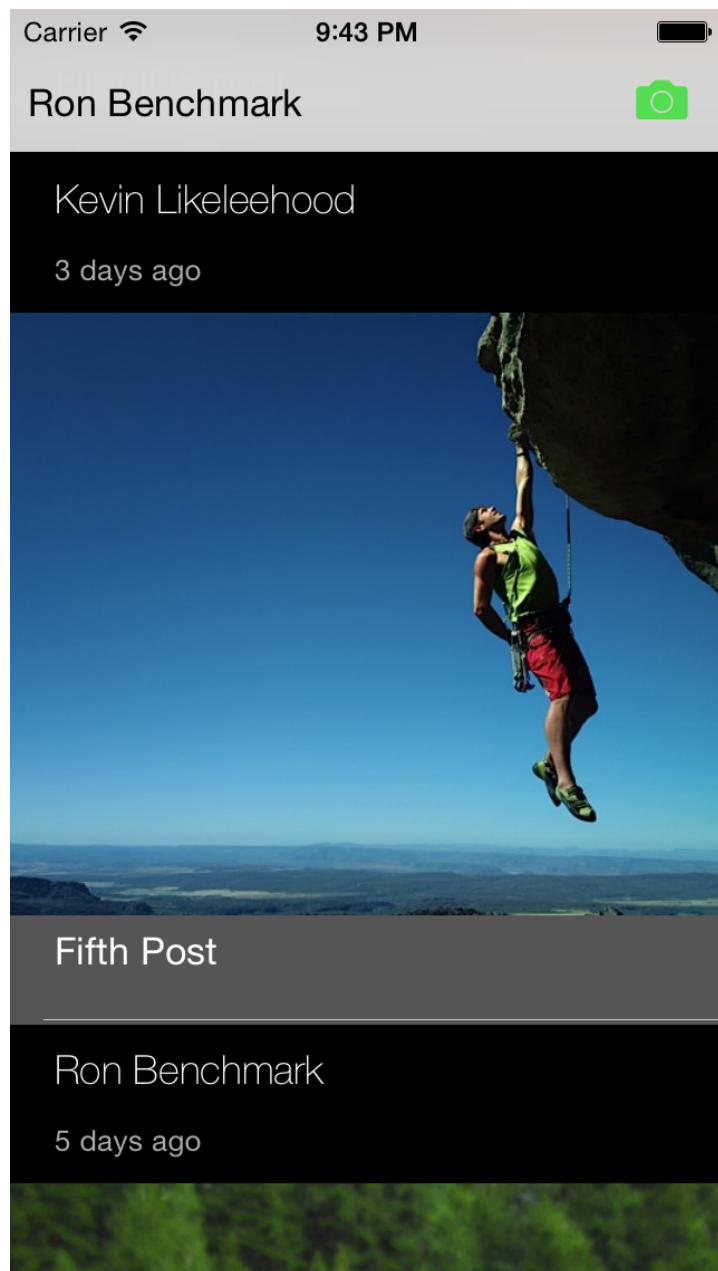
Update campaign

IOS APPLICATION

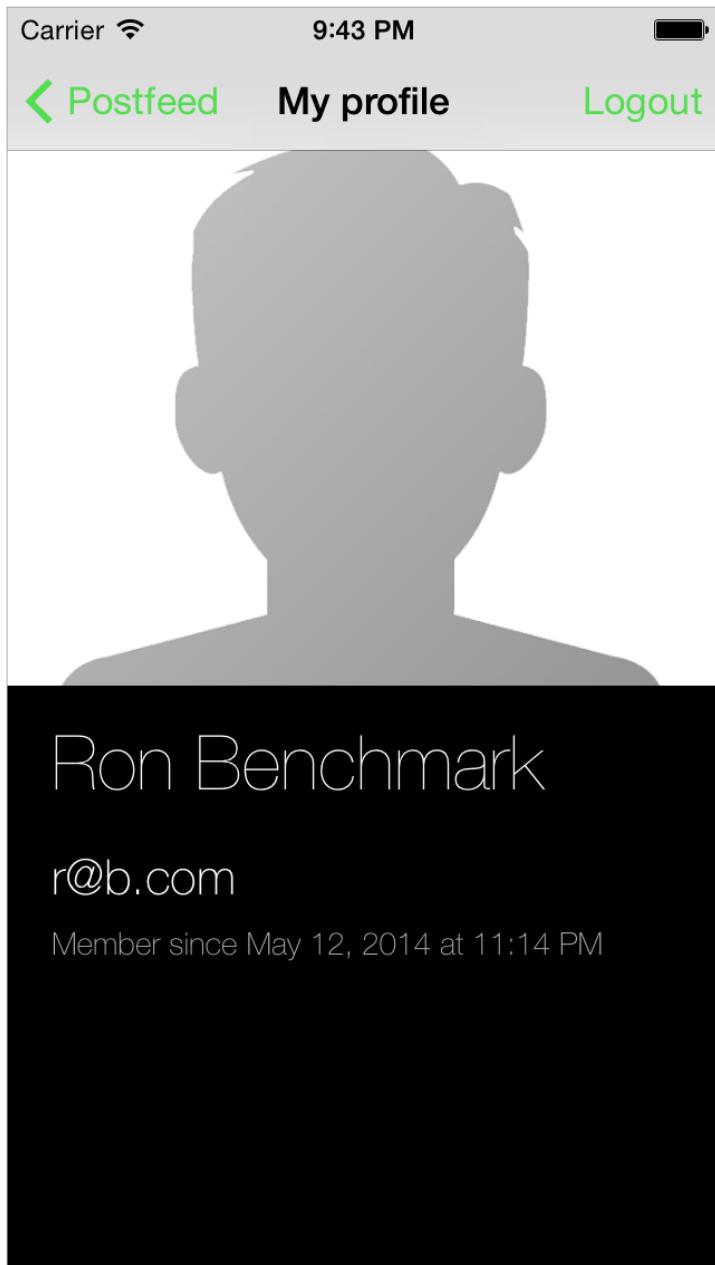
The iOS application launches with a login screen (sign-up button at the bottom). If correct login information is provided, the application send a POST request to the REST API and the nodejs server provides the user information as a JSON object. At login, a token is generated and first saved in the web database. The token is then sent in the JSON response and stored by the iOS app in a plist file. With every iOS request (making a post, reading the post feed, reading the account info, etc) the token is sent along in order to prove that the user is logged into the iOS device.



Once the user is authenticated, a segue to the post feed will be performed. The post feed is a sub-classed table view, with asynchronous load of post images. The posts use relative date-time and the entire feed can be updated by the well-known pull-to-refresh gesture done at the top of the feed.

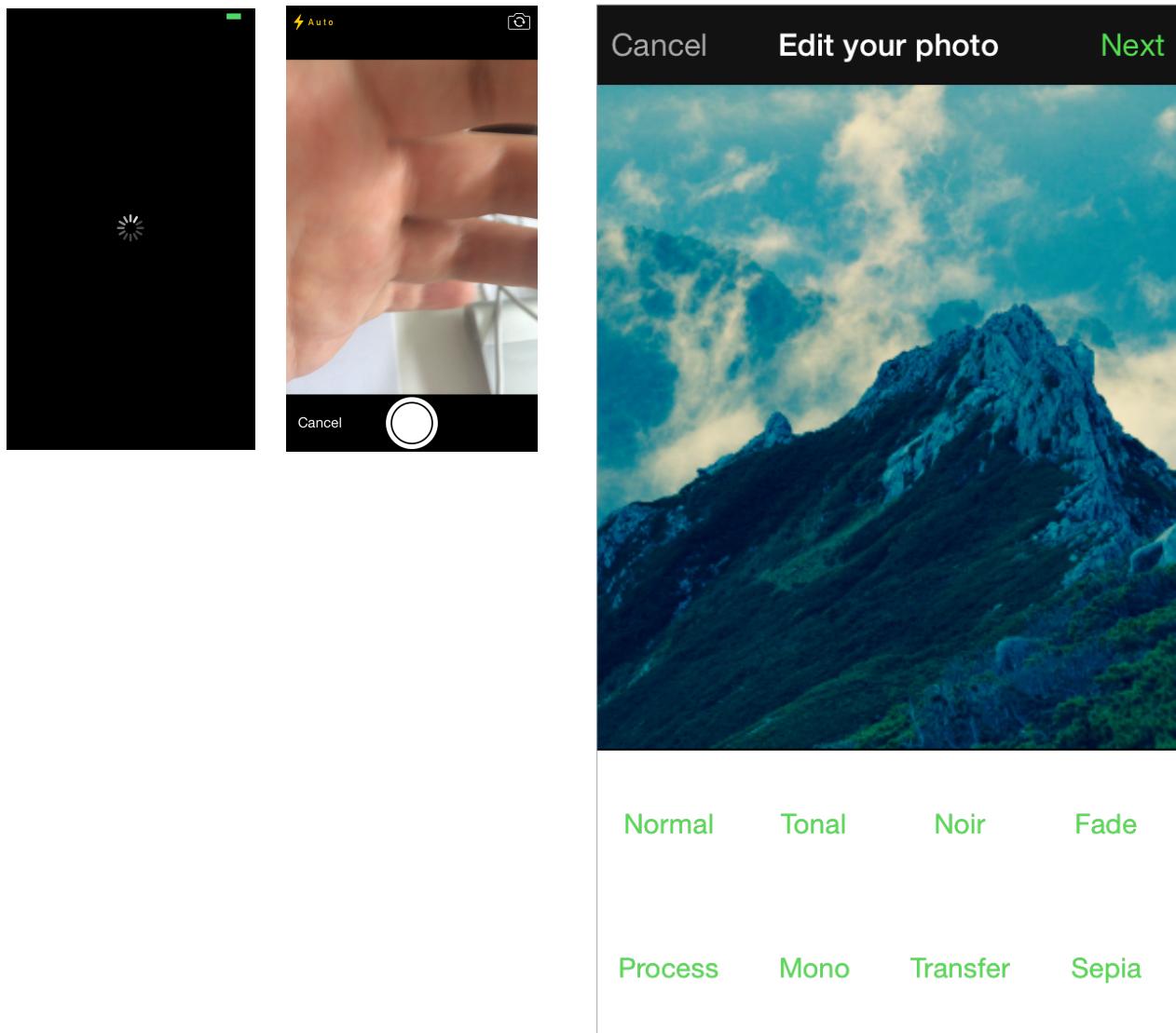


A user profile is available by touching the upper left corner (the logged-in Name and Surname). From the account page users can log out of the application.

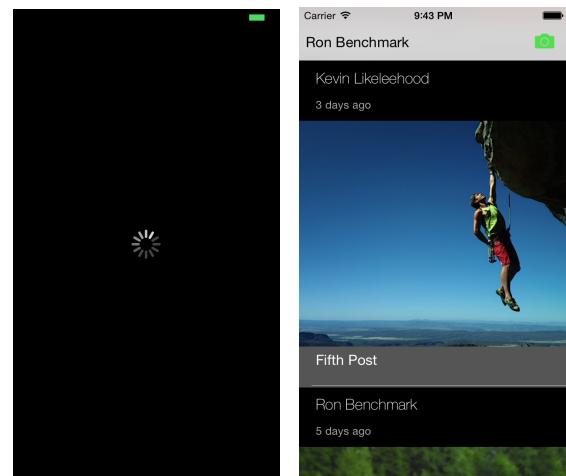
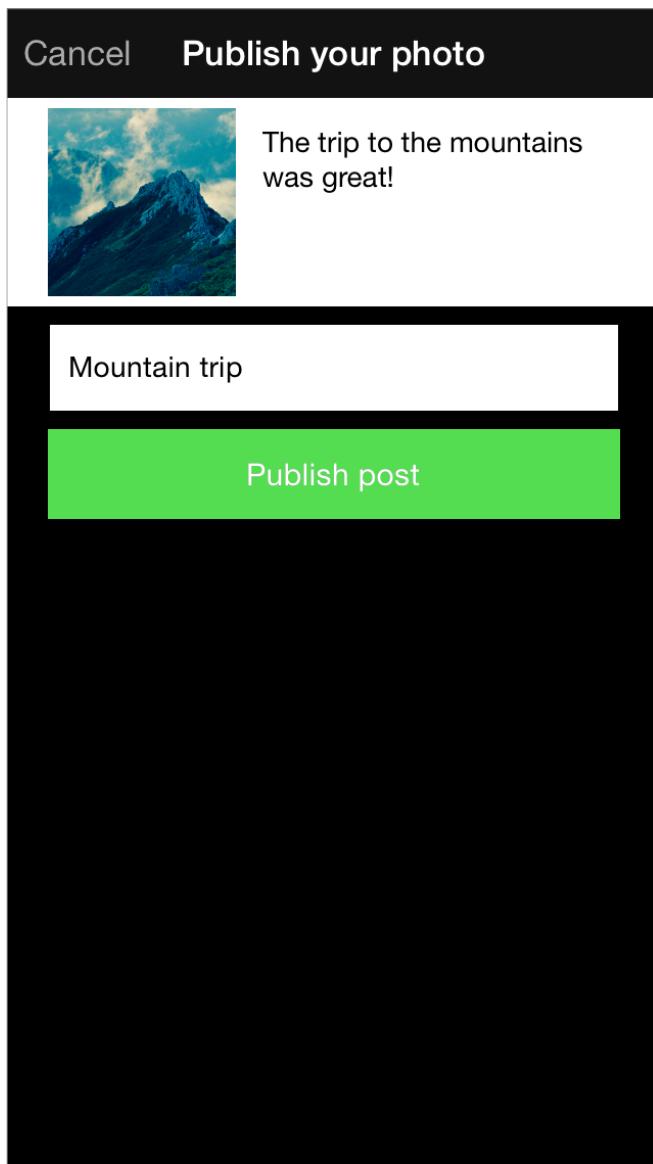


In order to make a post, the user can touch the green camera icon on the top right of the post feed. Once pressed, the camera is loaded (if available, otherwise the photo library is opened). After taking a photo, a segue to the photo editing view is made. (notice, the photo effects are subject to change and might be displayed differently in the attached zip archive)

The effects are all loaded asynchronously to provide a smooth experience. They can be toggled as many times as the user likes without consuming any additional memory (photos with all the effects applied are stored in the memory initially).



By pressing 'Next', the user is prompted with the final segue, where a title and description is required for the post. After the image is uploaded to the server (loading screen appears) a segue back to the post feed is performed.



Concluding this presentation, the demo video is available with a more detailed view of the platform:

[youtube.com/watch?v=xlu2rq1LZaY](https://www.youtube.com/watch?v=xlu2rq1LZaY)

