17637 Final Project Specification: ImageNation

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Project Backlog

1. Framework Module:

   - Features proposed here would be generalize to all pages in our web application.
   - User can navigate to other pages (registration / login, photo editing, online storage, community contents) using hyperlinks within a drop-down menu on each page.
   - Each page would support requests from both computer and mobile device, and respond with mobile-friendly layouts if necessary.
   - Each page would have embedded socialmedia APIs for expedite sharing.
   - An account is required to access features of our web application.

2. Account Module:

   - This module would allow user to either create an account or login with existing credentials.
   - User would need to provide username, password, name, and email for registration; or username and password for login.

3. Photo Editing Module;

   - User can upload a photo to edit, and later save the work to local machine.
   - The module would provide essential photo editing features, like tunning contrast / saturation, changing highlights / shadows, and smoothing the image.
   - Changes made on photos would be applied in real-time.
   - User can perform fine tunning with range sliders, and toggle the photo before / after editing for comparison.
   - The module would be able to generate random filters and apply them to uploaded photo. User can also request for new filters.

4. Online Storage Module:

   - User can store up to 10 recent edited photos online, with old photos erased from database if necessary. Also user can manually delete them.
   - User may choose to make further changes to photos in storage, but previous edits cannot be undone.

5. Community Content Module:

    - Each user would have an unique profile page, and may decide which photo to be featured online.
    - User can visit others pages through hyperlinks.
    - User may add up to 3 tags to the visible photos. Each tag would be a hyperlink to all other public photos with the same tag.
    - Changes made on photo visiblity should be applied to sharing contents in real-time.

Sprint #1 Backlog

1. Framework Module:

    - Design pages for welcome, registeration, login, photo editing, and online storage
    - Experiment with Bootstrap for UI desgin
    - Populate pages with mock contents if necessary
    - Enable inter-page hyperlink navigation

2. Account Module:

    - Create an Django form to store registered user info

3. Photo Editing Module:

    - Enable photo uploading and saving
    - Create an Django model to store uploaded photos and their owners' info
    - Experiment with random filter generation using Python Open CV library

4. Online Storage Module:

    - Create a lookup strategy for logged-in user photos
    - Enable manually removal on photos for logged-in users

Data Form & Model

Logged-in User Model:

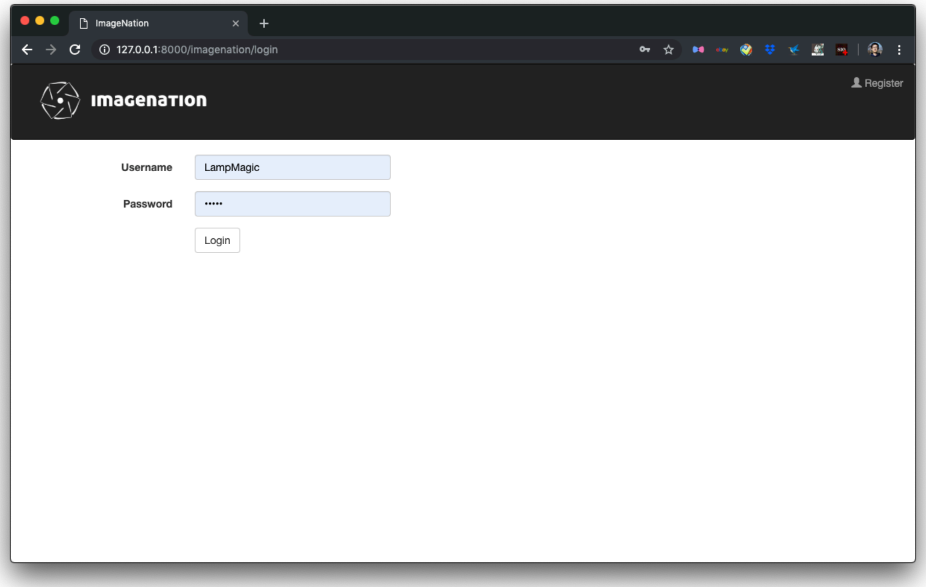
```
class Profile(models.Model):
    user = models.ForeignKey(User, on_delete=models.PROTECT, related_name="logged_in_user")
```

Uploaded Photo Model:

```
class Photo(models.Model):
    owner = models.ForeignKey(User, on_delete=models.PROTECT, related_name="photo_owner")
    photo = models.FileField(blank=True)
    dtype = models.CharField(max_length=20)
    share = models.BooleanField(default=False)
    time  = models.DateTimeField()
    tag   = models.CharField(max_length=20)
```

Page UI Mock-ups

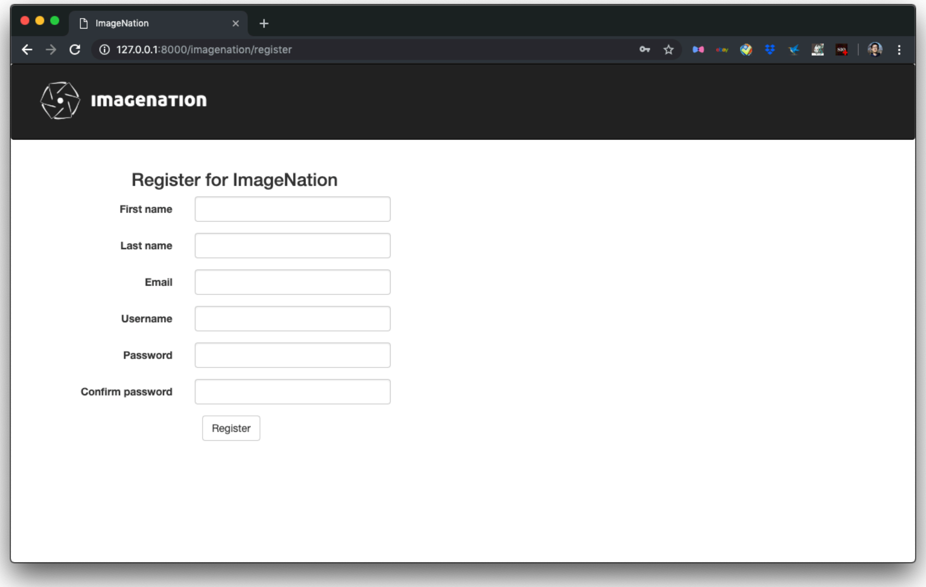
Log-in Page



Username LampMagic

Password •••••

Registration Page



Register for ImageNation

First name

Last name

Email

Username

Password

Confirm password

Photo Editing Page

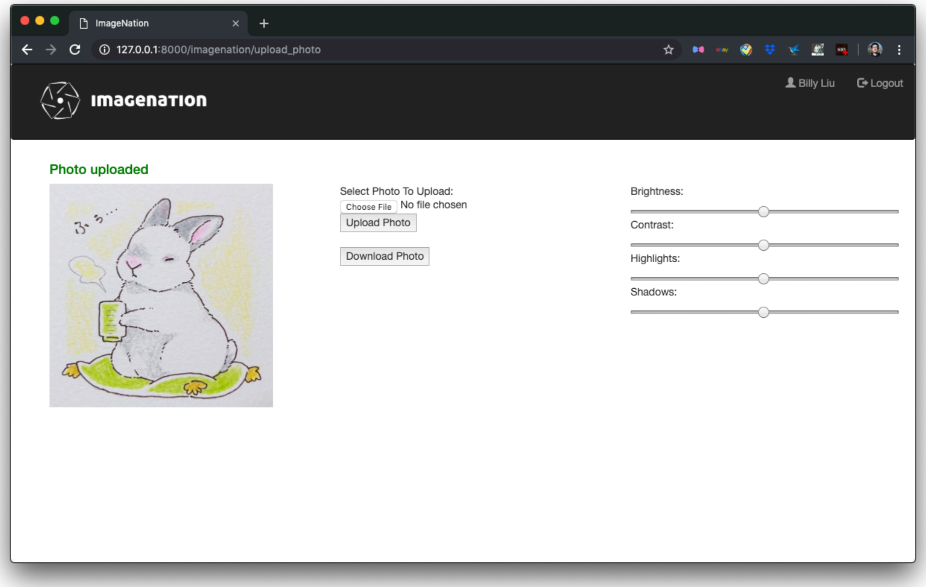


Photo uploaded

Select Photo To Upload:

Brightness:

Contrast:

Highlights:

Shadows: