**A Review Platform for UVA Student Housing**


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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments


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# A Review Platform for UVA Student Housing

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**Abstract**

Finding a good off-grounds student housing is difficult for UVA students. My teammate and I built a website that would enable students to read reviews from other students about their apartment-hunting experience, as well as post their own. We built our website in Django, a python-based framework for web development. We used sprint team organization to build a major feature every two weeks. We used GitHub for coordination and GitHub Actions for continuous integration. We deployed the website on Heroku and find students have a positive experience using our website. Future work is needed to deploy it on AWS for scalability, register a custom domain name, and implement additional features customer-obsessively.

## 1. Introduction

Student housing is significant in UVA students. According to the urban institute, at least 79% of college students live in off-grounds apartments across the entire United States [1]. According to apartments.com, the average rent in the Charlottesville area is $1635 per month [2], which is equivalent to $19620 per year. According to Student Financial Services of UVA (2022), the average tuition for in-state students in the School of Engineering and Applied Science across four years is around $22,850 per year [3], students pay the same order of magnitude of money for tuition and housing.

Student housing is a significant financial investment for UVA students.

On the other hand, it's difficult to find a good off-grounds housing for UVA students. Typically, a lease periods lasts–from August of one year to July of the next year. The current industry standard is to start asking students to sign a lease as early as October of the previous year, leaving students with little time to research and review their options. My teammate and I built a website for students to post and read reviews for off-grounds apartments. We find students have a positive experience using our website.

## 2. Related Works

Several review platforms already exist. Users can post reviews on Yelp about restaurants and places, for example. Dianping.com in China also reviews restaurants and places. There are also reviews for college level courses, like ratemyprofessor.com, or, for UVA students, thecourseforum.com. On Airbnb.com, users can not only review a place, but list their own homes. However, that is not what we are doing. We want people to review places they do not own.

Students also ask about housing on r/UVA, which is a general forum to discuss anything publicly; but we want a more dedicated space. Lyft for example, originated from students asking for rides in the Facebook marketplace, later evolved to an dedicated

app. We could take the same approach with our website, build it like other review platforms, but focused on student reviews of off-grounds housing.

### 3. Project Design

We built our website using Django (2022) [4], a python-based framework for web development. We used sprints to manage our work, where we aim to build a major feature in every two weeks. We used GitHub (2022) [5] for coordination, and GitHub Actions for continuous integration. We deployed our website on Heroku (2021) [6]. The project is finished, but I am expecting to deploy it on AWS and advertise it to students this semester before local landlords send out the renew offers for next year leases.

Setting up the web server is required for a user to be able to access the front page of a website. This is achieved by deploying a web application to a server, so that the server could reply with the correct response when the browser sends a Hypertext Transport Protocol Secure request. We used Heroku to deploy our Django application to a web server.

To build this website, there are multiple requirements. First, a domain name is required, so students can be redirected to the correct IP address, instead of manually typing the hard-to-remember IP address itself, which is made of four integers between 0 and 255, inclusive. This is achieved using Heroku.

After the user's connection is established, the browser sends a Hypertext Transport Protocol Secure Get request, to which the server responds with a reply. This is achieved by rendering a Hypertext Markup Language template, with respect to a Cascading Style Sheets, which specifies the font display and layouts, with data pulled from a Postgres database. The python framework for web development, Django, handles all these procedures.

Our website can be found at getoffgrounds.herokuapp.com. Users will be prompted to log in with Google account at first, as in Figure 1; then they are presented the main page of the website, as in Figure 2. Then they can either choose to navigate to the log-in page as in Figure 3, the listings page in Figure 4, or the forum page in Figure 5.
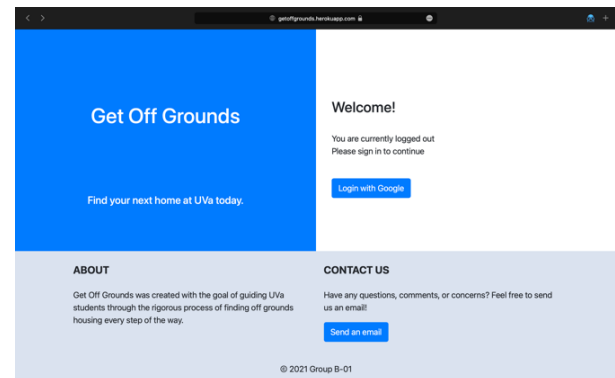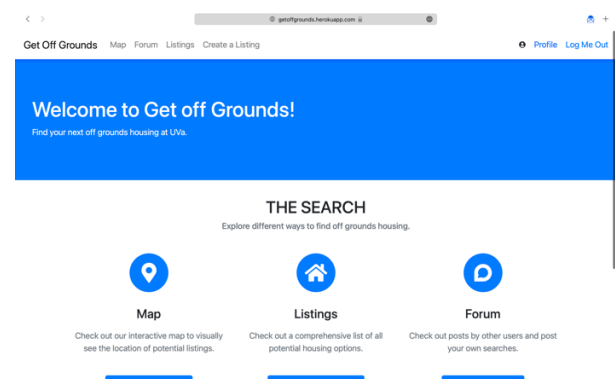


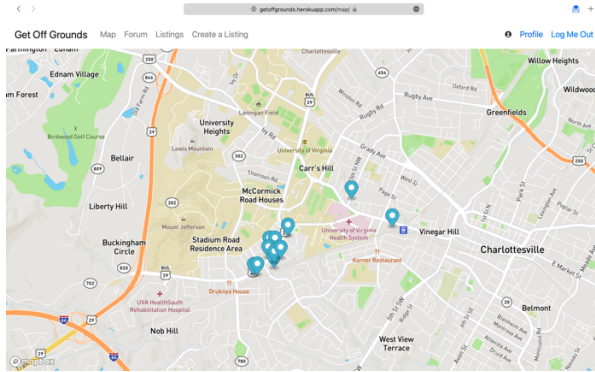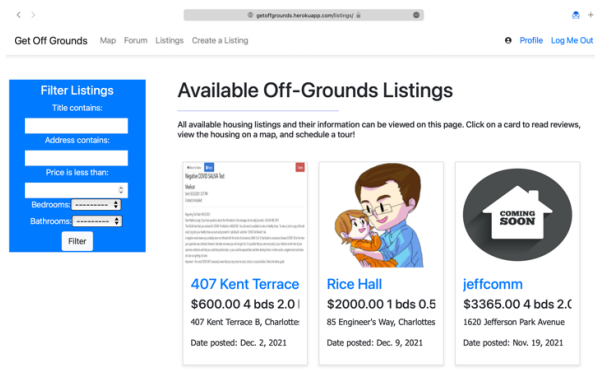Figure 1: Log-in Page



Figure 2: Home Page
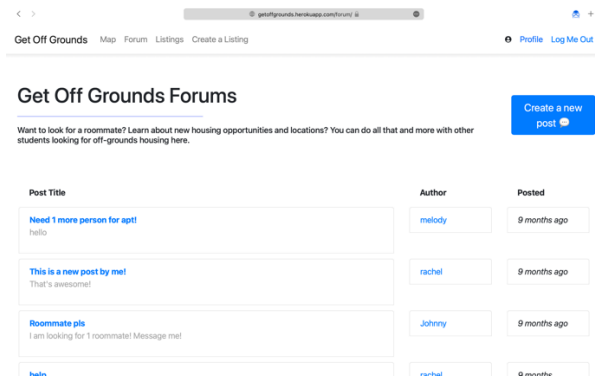
Figure 3: Map Page


Figure 4: Listings Page


Figure 5: Forum Page

## 4. Results
In our beta testing, people have provided many positive comments. One of them said: "The website looks and works great." Another said: "Really like your website." There are currently 14 listings on our website, and 11 forum posts.

Figure 4 presents some of the listings uploaded to our website. Figure 5 presents a partial screenshot of discussions on our forum. Reading the reviews and posts makes it easy for students to know more about off-grounds apartments. This makes a positive impact for the University of Virginia community.

## 5. Conclusion
My teammate and I built a platform for students to read reviews from other students about their apartment-hunting experience, as well as review their own apartments. Students have a positive experience using our website.

## 6. Future Work
Future work is needed to deploy it on AWS for scalability, register a custom domain name, and implement additional features customer-obsessively.

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