Those Meddling Kids
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Landscrape Deployment Plan

Overview: Landscrape is a web-based, web-scraping application that is built on the Flask microframework for Python. The application serves to show users what the best stuff around them is by comparing results from two sites and condensing them into a singular result. The application also supports the entry of multiple search terms in order to increase ease of planning an event when you go to a new place. The current version also supports a cross-country search, with the option to select a state and city to search. The results of a multiple term search are displayed on a comprehensive results page, with the option to go to a given result's corresponding webpage. This allows the user to get more information about a specific result from the source of our results compilation. The primary goal of the application was simplicity and ease of use, which was certainly accomplished in this iteration of the application.

Deployment: Looking into the future, deployment of this product will be essential to its long-term viability. Fortunately, the current version is actually deployed as a functioning web-application on Heroku, so the proof of concept is certainly there. Low-level deployment of a web application is fairly straightforward, but if we were to look at scaling the application to a larger level, we would need to consider several costs associated with moving into a full-scale production:

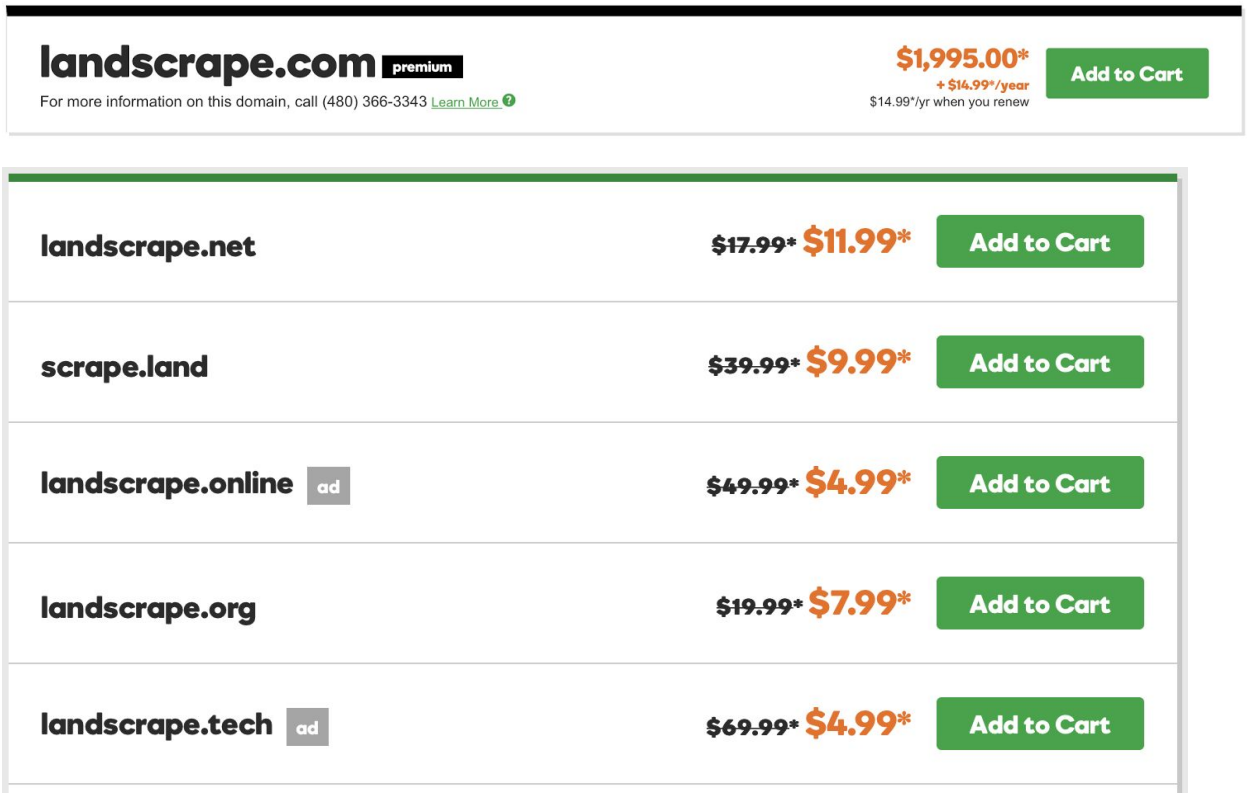
1. Cost of Domain Hosting
2. Cost of Server Space
3. Cost to Develop a Mobile Version of the App
4. Cost of App Maintenance/Upkeep.
5. Cost of marketing/ promotional material for the application

In this report, we'll go over the general dollar amount associated with one of these costs, in addition to the time required to implement each of these features. We'll also look into any additional resources that may be necessary for scaling of the application, and any other possible outcomes of bringing the app to market, such as being acquired by a larger service, or even becoming a larger company.

Costs

Cost of Domain Hosting - $1995.00

Since Landscrape is a web-based application, buying a domain name for the application is an essential first step to building a strong brand for the application. There are a variety of options when it comes to selecting a domain name, but since our application serves as a standalone product in its current state, we would like to get the coveted "Landscrape.com" domain name for the product. Clearly, this is the most expensive option. A breakdown of domain pricing sourced from a GoDaddy.com Search is presented below.

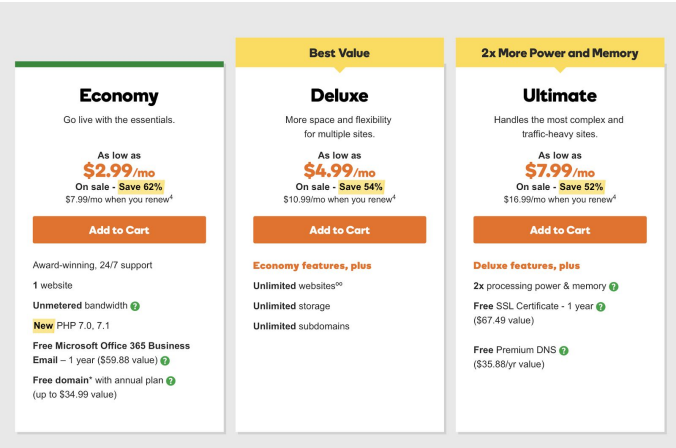


Clearly, we could choose to select a less prominent domain name to help reduce our costs. Despite this potential worry, we will be moving forward with the assumption that our domain name will be “Landscrape.com” at the listed price of $1995 (~$15/mon).

Since this is just the cost for the domain, we would need to look into some way to host that domain and deploy our application to that domain name.

Cost of Server Space - $60

Like most web applications, Landscrape runs on some sort of server. For the current level of production, the localhost server is utilized when demoing or developing the app, while a barebones Heroku server comes at no initial cost to the team. Going forward, additional Heroku services would need to be purchased in order to maintain the app on that server. It’s also worth noting that Heroku does a good job for really (really) small-scale web applications, but their services don’t scale too well with traffic. An example of this is noted by our webpage’s timeout on the test functionality. Obviously, our website will need to handle a much larger user base if we plan on bringing the service to market, which means that a more powerful web server would be needed to accommodate the growing platform. Given that we expect our service to me mid-size in nature, we looked into a few hosting services, and landed on a few different options:



With domain services from GoDaddy.com, we could also utilize the service for web-hosting, starting with the “Deluxe” plan and potentially scaling up the the “Ultimate” plan

down the line if we run into issues with processing capabilities. We don't need any type of SSL certificate at the current time, since we're not doing anything with online transactions. Going forward, some of these costs may change if we decide to expand the platform and include additional services, but for now we will assume a $4.99/month plan on a 12-month plan.

Cost to Develop a Mobile Version of The App - $200,124 for multi-deployment

In order to continue growth of the Landscrape brand, a conversion to a cross-platform application is essential. Converting a Flask app to a mobile application will prove to be somewhat challenging, since Python isn't an extremely popular language for cross-platform application development. This leads us to two potential routes: using a Python-based cross-platform development environment, or converting mobile development to a Javascript platform such as React Native. For the Python route, we could look into using an environment like **Kivy** https://kivy.org/#home. For the sake of this plan, we will assume that this is the route taken in order to utilize the functionality of the Scraper that has already been implemented in Flask. We would need a team of developers in addition to our initial team of three, with an estimated 1000 total hours on converting the current application over to a Kivy mobile application. At a North American average hourly wage of $150/hr for mobile developers, this comes to a grand total of $150,000 for the estimated 1000 hours of work (10 weeks at 100 hours total / week). We'll budget $200k initially in order to cover any oversight in the amount of hours required to convert the app over to mobile. Development will likely be the single highest cost of the app going forward, and if we continued to hire out these developers the cost of salarying them could be quite high.

In order to deploy a mobile application to the Google Play Store, there is a one-time, $25 fee to deploy. If there are additional in-app purchases, additional costs may be incurred. To deploy on the Apple App Store, there is a yearly developer cost of $99. This will be the number we use, since we are only looking a year down the road at this point.

Cost of App Maintenance/Upkeep - $Unknown

Maintaining the application will certainly be of concern moving forward into the future. If you'd like to read more about the details of the maintenance plan, look into our "maintenance plan" document.

Something worth noting is that in our application's current state, we are utilizing data gathered from websites maintained by other companies. This could result in some legal trouble in the long run for our application, so in order to effectively "maintain" the app, we would likely have to develop our own sort of rating system based on results that are not compiled by other companies. Another solution would be to maintain licensing from the sites we scrape (Yelp, FourSquare.) However, it's difficult to estimate the cost/viability of actually getting those rights from the sites we are utilizing.

Cost of Promotional Material/Marketing - $64,000

The last thing that we need to consider is the potential promotional costs of the application. Promoting the application could be tricky, and we would likely start with a word-of-mouth campaign to the get the product off the ground and into the hands of as many users as possible. After this, we would begin paying for some Facebook advertising, which comes at an average of $0.58 per click according to fitsmallbusiness.com's review of Facebook advertising. If we set our goal at 100,000 users, this equates to an advertisement cost of $58,000. We could also run a variety of poster-based campaigns on the ground in order to increase app downloads and site usage. Estimated cost for these campaigns would be ~$500, with a goal to host a campaign each month for a year, for a grand total of $6,000. Currently, these are the two primary avenues that we've pursued for advertisement, but numerous additional options exist if we are able to develop a stronger audience for the product in the long-run.

Conclusions

Looking at the estimated numbers for development and deployment, it seems that the price of actually bringing a product to market is much higher than one might initially expect. Our grand total for a one-year deployment plan (without factoring in maintenance) is:

$1,995 + $60 + $200,124 + $64,000 = ***$266,179***

The question now comes into play: how would we fund such a high cost of deployment? The simplest solution is utilizing advertising on the platform after we are able to generate our own results outside of Yelp/Foursquare scraping. We would allow local businesses to pay our platform for promotion of their business in a given area. These sponsored results could be marketed as “Landscrape’s Choice” for the area. We could also fund the project through some sort of Venture Capital pursuit.

The largest challenge will likely be determining whether or not it is possible for our app to transition from a scraping application to something that is actually tapping into a larger database of results for restaurant reviews. In order for the application to reach a full-scale solution, our focus would likely have to transition to something much larger than we are currently interested in pursuing.