Those Meddling Kids
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Landscrape Maintenance 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 restaurants or activities are around them 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. This document demonstrates a maintenance plan if we were to deploy this application for one year.

Costs: With hosting and maintaining a service, there will always be something to pay for. Aside from the initial deployment costs, there are recurring costs that seep into the application post deployment. The costs tend to vary, and it all depends on which type of deployment plan chosen. There are three main plans (shown below).

1. Sole Github deployment

   One deployment plan is to leave the service as a downloadable application on Github. This takes the least amount of work, and it needs the least amount of maintenance. The only necessary maintenance for this deployment plan would be to regularly update the code.

   Cost: $0 / year

2. Heroku App deployment

   Deployment on the Heroku hosting service is also very simple and leaves very little maintenance to do. While this isn't a particularly sustainable plan, there would be a decent amount of maintenance needed to make sure the site has the necessary resources available. In its current state, the site is based on the free version of Heroku, designed for "experimenting in a limited sandbox". To scale up, there are multiple other plans that include better resources. The three plans include a "Hobbyist", "Standard" and "Premium" plan. The Hobbyist plan is a very small scale with a small process limit (not optimal for enterprise). The Standard and Premium plans have much higher resources and features. These plans would be optimal for continuous upkeep, and would run between 25-500 dollars per month as a maintenance cost. Since our app it poised to take off on a large scale, we will use the Premium plan.

Cost: $500 / month = $6000 / year

3. Domain Deployment

   Domain deployment is essentially doing all hosting work independently, rather than outsourcing the work to another company. The main components of this includes acquiring a domain and a server to host. This would also require a decent amount of setup time, server management, and utility costs.

   a. Renting a domain

      Renting a domain name would be a very simple option with online “leasing” sites available. GoDaddy.com sets the price of “landscrape.com” at $14.99 per year, while the domain with .net, .org and .tech extensions are a fraction of that cost. For a year’s deployment, the cost of the .com extension is manageable.

      Cost: $14.99 / year

   b. Purchasing a domain

      Purchasing a domain is the more independent route, but it comes at a hefty price tag. A straight buy-it-now price from GoDaddy.com would be $1995. To compare that price to renting, we would have to run the site for over 11 years before a purchase becomes the more economical option. This is not accounting for inflation and price changes.

      Cost: $1995 One Time

   c. Renting host servers

      Renting servers takes the chore out of hosting, but at a recurring cost. Renting a dedicated server with capable specifications would run roughly between $40-60 with the top of the line being roughly $100 per month. After reviewing specifications, the middle tier dedicated server would suit our needs with the most affordable cost.

      Cost: $60 / month = $720 / year

   d. Purchasing servers

      In the context of an independent system, owned solely by our enterprise, purchasing servers is the next step to hosting. This allows for our own hosting datacenter that isn’t dependent on any external management. Running servers consistently comes with a significant cost, but independence is often more desirable. Shown below, cost of a single server with: 3.4GHz processor, 500Gb HDD, 8Gb RAM, plus room for expansion.

Cost: $1000 One Time

i. Server Utilities

Aside from the physical costs of purchasing a server, there are other costs as well. Running a server constantly requires a constant power source. Estimating a middle tier power supply unit (350W), it is cited to draw roughly 320 KWH of power per month. At 10 cents per KWH, this comes out to roughly $32 per month.

Cost: $32 / month = $384 / year

ii. Server Management

If servers are being hosted privately, then someone needs to monitor them and manage disruptions. Generally, they need to be monitored at all times, but in a small scale operation, there just needs to be an alert system in place and someone at the ready to fix them. A full time developer would be hired for the purpose of application builds plus server management.

Cost: $50,000 / year

iii. Internet Service

Our application relies on the information gathered from other websites, so internet connectivity is absolutely critical. Gigabit internet service from a local provider would yield the connection speeds we need for both client connections and backend service.

Cost: $70 / month = $840 / year

Along with all costs of simple deployment and hosting, at least one part time developer will be hired for general application maintenance and upkeep. Since our application relies on other website's data, there could be a significant problem if a site changes the format of their site. The developer would likely need a sizeable bonus to update and improve the app. The application is very easy to work with and maintain, so a developer wouldn't need to spend a considerable amount of time, hence the smaller salary ranges.

Cost: Part Time: $20,000 / year, Full Time: $60,000 / year, Potential Bonus: $1000-5000

After everything is deployed, some advertising needs to be done to get our product on the market. Taking advantage of Google AdSense and other advertisement sites, we can target food related websites for a small cost. Most websites advertise on a set cost per 1000 impressions basis, so we could get a considerable amount of exposure for very little capital. The

Deployment Plan has another possible marketing campaign, but each of these differ in their size and targeted audience.

Cost: Est. ~$100 / month = $1200 / year

Total cost is based on the most practical deployment and management strategy. Based on a one year deployment plan, renting the domain, renting hosting servers, advertising and hiring a part time developer are the long term expenses to consider. The estimated total cost is shown below.

Total Cost Range: $21,950 / year

Income: In any business where there are recurring costs accumulating, there need to be profits to keep the service afloat. For web services, there are many different ways this can be done.

1. Affiliate Marketing

   Affiliate marketing is the concept of promoting an external product on your own website. There are a few different ways this could work out with this application.

   a. Marketing with a restaurant

      Affiliation with a specific restaurant would be in the form of payment so that their site comes up higher on the display sheet. This would be a fairly simple transaction that could fetch high profits based on locations.

   b. Marketing with a web-scraping site (Yelp, Foursquare)

      One feature that our app has is redirecting a user to a site with more information. Whether it is redirecting to the restaurant’s private website or the Yelp/Foursquare page, there is potential to place preference. Since we choose where our application redirects, We could potentially network with Yelp/Foursquare to show preference to their site. Payment usually resides in the amount of impressions made (redirects), generally a set payment per 1000 impressions. A typical rate is 70 cents per 1000 impressions, so profits begin to grow with higher client traffic.

2. Per-Click Ads / Per-Impression Ads / AdSense

   Advertisements can provide constant stream of revenue based on how popular our application is. The potential for profit varies greatly with the performance of our app, and there are a few very simple ways to enter the market.

a. Per-Click Ads

   This strategy is very common among websites. This would be selling the margins on our site to host “per-click” ads. We would gain revenue based on how many clients clicked that ad (usually on frame of 50 cents to $1).

b. Per-Impression Ads

   Per-Impression ads are similar to per-click ads, but revenue is gained without a user interacting with the ad. These generally make profits or 60 cents per 1000 impressions.

c. Google AdSense

   Google AdSense is a common and easy-to-use service that analyzes your site and displays advertisements based on the content. The advertisements can be either of the two possibilities shown above. Advertisers make certain bids to have their ads prioritized, so if your site has high traffic, the profits can grow exponentially. All of the ads placed on the site would have inflated per-impression and per-click values, adding a hefty cut of revenue to us.

3. Leasing sub domains to restaurants

   If we make the decision to buy or rent our own domain (landscrape.com) we could make revenue off sub-domain leasing. This way, a restaurant or organization can set up their own site in a sub domain and link it to our rating system. This is similar to affiliate marketing, but this allows for a restaurant have specific hosting rights tied to our application.

4. Accepting Donations

   Another, perhaps more honest way, is to request donations. Many sites like Wikipedia request donations to keep their site free of use and free of advertisements.

Conclusion: The long term maintenance plan will generally be renting the hosting platforms and then hiring developers to improve the product. There are a few general ways to make revenue to capitalize on, but it depends on the website traffic to see the profits. The Landscrape web application could potentially turn a profit with appropriate planning and advertisement.