Software Engineering Final Exam

Team 2: Audrey Evans, Hari Ramanan, Alan Wang, John McCain

**PERCUSSION PAL: DEPLOYMENT PLAN**

**BeatLuvers Inc. May 2016 Report**

Author: Audrey Evans

Our product, Percussion Pal, is a web based drum machine. The goal of our company, Beatluver Incorporated LLC, to provide a free alternative to expensive drum machine models for the public, including musicians and educators. Our product will provide a fun and easy way to produce percussion rhythms.

There are a number of tasks to complete before we can release our product. Firstly, we must complete the initial development of the project, which requires the groundwork code and design of our web based application. Alongside the development process, our company will need to address copyright issues involving preexisting drum machines. Another task that we will need to complete is creating the marketing plan for our product so that we may advertise it to the best demographics interested in using a drum machine online. Finally, before we deploy our product, we will need to obtain the appropriate amount of server space with respect to the amount of web traffic we anticipate. In addition, we will need to obtain a web URL that is simple and easy for costumers to remember.

The first and most obvious task preceding the deployment of our product is the initial development of Percussion Pal. This product was conceptualized and designed by four developers; John McCain, who originally envisioned the idea for a web based drum machine and laid the groundwork for the project, Audrey Evans and Hari Ramanan, who implemented the original design and styling for the drum machine, and Alan Wang, who completed a portion of the technical work involved in the drum machine. The timeline for creating this product was determined to be approximately two months, in which there were two main scrum sprints. The first sprint addressed the fundamentals of the requirements for the drum machine, and the second sprint supplemented the project with a more fluid user interface and many additional features. The average starting salary for a web developer, e.g. Mr. McCain and Mr. Wang, is estimated to be around $63,000 (1). In addition, the average starting salary for a web designer, e.g. Ms. Evans and Mr. Ramanan, $50,000 (2). The salary for a part time secretary necessary to assist the four founding members will be approximately $15,000. The budget for our marketing plan, including hiring out a marketing agency, will be around $20,000 (3). Therefore, the approximate cost of the staff of our company for the first year will be $261,000. For the first two months, however, when the initial product is being developed, the approximate staff budget will be $43,500. In the future, we also plan on hiring a part time accountant to help us with budgeting and taxes for our small company. An accountant is not necessary for the initial deployment of our product, and so this will be expanded on in our Maintenance plan.

Another cost in the initial development of our product will be the rent for our office space. Because our company is based out of Lawrence, KS, there are a number of options for office space. Our company could rent a space in downtown Lawrence for around $2,000 a month (4). Another option would be to affiliate our startup company with the University of Kansas with the agreement that we will conduct research in both computer science and music therapy for KU, and therefore use a laboratory in the KU engineering complex. This option would require our company to commit 70% of our profits to KU. A more economical option would be to rent office space from Mr. McCain's mother's basement for $100 a month. In conclusion, our company's estimated rent cost will be $200 for the two months of initial development.

Advertisement is a key element for any product. It will be important for our company to advertise to the best demographic for our drum machine. We anticipate that people interested in making and producing music, music students, and music educators will be most responsive to a free web based drum machine. Facebook advertising allows businesses to spend as much as they want on advertising. Our advertising budget will allow us to spend $10 daily for one month, and therefore $300 on Facebook ads. Other advertisements will be handled by our contracted marketing agency and will also focus on our target demographic. We plan on advertising on high traffic websites that attract our target demographic, such as guitarcenter.com, ultimate-guitar.com, and specific subreddits that are music and percussion focused such as /r/Listentothis, /r/music, /r/percussion, /r/drums, and /r/drummers. We believe that web advertising is the best way to target our audience, and that television advertisements would be too expensive and not as effective. Our company also plans on sending two people to a several web development conference in order to promote our products. Tickets to these types of events, plus travel fees, will be up to $600 per person (6). At these events our company will table and present the work that we have done. We also will be present at music conferences to advertise our product to music professionals and producers in the industry.

Because the original vision of Percussion Pal is inspired by existing products, such as the famous TR808, Beatluvers Incorporated must be careful about how we present our drum machine. It will be important to ensure that our company does not unintentionally violate any copyright laws, so we will hire a lawyer consultation which is anticipated to be about $500. Our original plan for our project was to make an online drum machine that was as close a copy to an original TR808 as possible. We discovered that due to copyright infringement this would not be possible, unless we wanted to buy the rights from Roland Corporation, the owner of TR808. This expense would be in the millions of dollars. In order to avoid this, we revised our product to be an original drum machine of our own design. By doing this, we will also be able to make the user interface of our product more user friendly. In addition, to avoid other copyright violations, our company will record original percussion sounds for our drum machine. The original sounds that we used to develop this product were derived from an original TR808, which would require us to buy the rights of those sounds from the company. Instead, we will record our own and original percussion sounds to use for our drum machine. The cost to rent the professional recording studio at Mass. Street Music of Lawrence, Kansas, will be $100 (8). Because members of our Beatluvers Inc are already part of the music community, it will be no additional cost to use specific high quality drums and other percussion instruments to record the essential sounds for our product. Another small fee will be to trademark our product's name, which will be as little as $35.

Percussion Pal is a web based application, and therefore it will be necessary to host a server based of the amount of web traffic that we anticipate from our customers. Although it is hard to anticipate this type of parameter before we launch our product, we hope that there will be a daily average of 500 visitors. Generally, for our project, each page view costs us 7MB of data. This high amount of bandwidth per page view is due to the fact that each time a page is loaded, our product must load all of the .WAV files necessary for the drum machine to work. This problem could be solved using cashing. This task will be postponed until after our product is deployed. At 500 page views a day, we expect to need 100GB a month of bandwidth. This will cost us about $20 a month using the cloud server company DigitalOcean (9). Another expense is buying a domain name for our product. It is important to Beatluvers Inc to have an easy to remember web name, and so we will buy the domain name percussionpal.net from Google Domains for $12 a year.

We plan on making money from our free product by selling ad space on our webpage. Because we anticipate at least 500 page views a day, our website could be a popular place for advertisers. We hope to make these ads as unobtrusive as possible, as well as ensuring that the ads on our page are not spam. We can also make money by offering a patron package to our customers, which offers an ad free version of Percussion Pal for the modest fee of $20 a month. This patron package would also offer additional features not found on the free version of our product, such as pre-made rhythms, more instruments, and more controls such as base and gain. This patron package will be expanded on in the Maintenance plan. We believe that our product will be lucrative once it becomes more popular because companies will want to advertise on our page.

There are many responsibilities that are required for launching a new product. Our company, Beatluvers Incorporated LLC, is launching a web based drum machine. In addition to the original four web developers and web designers, we will need to hire a part time secretary, a marketing agency, and a lawyer consultation. Costs of developing our product will include office space rent as well as recording studio renting. We will need to buy server space as well as a domain name for our product.

**Table 1:** List of foreseeable costs in development of the Pal.

|  |  |  |
| --- | --- | --- |
| **Service** | **Estimated cost for 2 month development** | **Estimated cost per year** |
| Web developer John McCain | $10,500.00 | $63,000.00 |
| Web developer Alan Wang | $10,500.00 | $63,000.00 |
| Web designer Audrey Evans | $8,333.00 | $50,000.00 |
| Web designer Hari Ramanan | $8,333.00 | $50,000.00 |
| Part time secretary | $2,500.00 | $15,000.00 |
| Marketing agency | $3,333.00 | $20,000.00 |
| Conferences | $1,200.00 | N/a |
| Lawyer Consultation | $500.00 | N/a |
| Office space rent | $200.00 | $1,200.00 |
| Facebook advertising | $300.00 | N/a |
| Trademark fee | $35.00 | N/a |
| Recording studio rent | $100.00 | N/a |
| Server | $40.00 | $240.00 |
| Web url | N/a | $12.00 |
| **Total** | **$45,886** | **$264,587** |

References

(1) "How Much Can a Web Developer Expect to Get Paid?" Web Developer Salary Information. N.p., n.d. Web. 25 Apr. 2016. <http://money.usnews.com/careers/best-jobs/web-developer/salary>.

(2) "Starting Salary for Web Designers - Web Design Degree Center." Web Design Degree Center. N.p., 28 Dec. 2013. Web. 25 Apr. 2016. <http://www.webdesigndegreecenter.org/starting- salary-for-web-designers/>.

(3) "The Starting Salary at a Marketing Agency." Small Business. N.p., n.d. Web. 25 Apr. 2016. <http://smallbusiness.chron.com/starting-salary-marketing-agency-13978.html>.

(4) "Lawrence Office & Commercial - Craigslist." Lawrence Office & Commercial - Craigslist. N.p., n.d. Web. 25 Apr. 2016. <https://lawrence.craigslist.org/search/off>.

(5) "How Much Do Facebook Ads Cost?" Facebook for Business. N.p., n.d. Web. 25 Apr. 2016. <https://www.facebook.com/business/learn/how-much-facebook-ads-cost>.

(6) "Web Design Conferences." And Events. N.p., n.d. Web. 25 Apr. 2016. <http://lanyrd.com/topics/web-design/>.

(7) "Types of Legal Fees - FindLaw." Findlaw. N.p., n.d. Web. 25 Apr. 2016. <http://hirealawyer.findlaw.com/attorney-fees-and-agreements/types-of-legal-fees.html>.

(8) "New and Used Guitars, Amps, Effects Pedals, Guitar Pickups, Mandos." Mass Street Music Store. N.p., n.d. Web. 25 Apr. 2016. <http://massstreetmusic.com/>.

(9) "Simple Cloud Computing, Built for Developers | DigitalOcean." *DigitalOcean*. N.p., n.d. Web. 25 Apr. 2016. <https://www.digitalocean.com/>.