EECS 448: (Fall 2016)

“Team One” Final Project: Two-Player

Checkers:

Maintenance Plan

Members:

Logan Ayer

Matthew Bauer

James Muoghalu

Luke Weaver

Introduction

This is the maintenance plan for Project 4. Our product is a networked Checkers board game. This report will summarize our findings in estimating how much it will cost to maintain our product for the next year. Our main costs will be with paying developers but we will also have minor costs associated with deploying our application. We do not know yet how much revenue our product will generate, but as a rule, we will attempt to keep costs down as much as we can.

Costs

Our Checkers project design requires a designated central server to be accessible by players at all times. We expect to need this server to be running 24 hours per day and to also have a single fixed IP address. Amazon Web Services makes this available to us. Specifically "Amazon Elastic Compute Cloud" also known as EC2 allows "users to rent virtual computers on which to run their own computer applications[1]." EC2 provides a static IP address that we can hardcode into our application, providing networked access anywhere the Internet is available. The pricing for is "on-demand" meaning that you are only charged when your machine instance is running. Our server uses fairly little memory so we can use EC2's t2.micro costing "$.012" per hour[2]. Because we predict our application to be used 24 hours per day, we will need 8760 hours to maintain our application for a year. This totals 8760 hours * 0.012 $/hour = $105.12.

As mentioned in our Deployment Plan, we will also want to create a webpage to advertise our game. This webpage will serve as a central location to advertise our game's features and distribute our .jar file for a price. A top level .com domain costs about $12 per year[3]. Other domains have different prices[5], but for this analysis we will assume that we need a .com domain. Hosting can be provided by many different websites each with different prices and associated benefits. Indeed, we could even run our webpage over our EC2 instance! However, we want a fairly standard web page that we can rely on to always be available. Squarespace offers a standard template that we can use without having to hire a professional website designer. This is ideal to avoid having to higher another person to maintain the website. The standard business class costs $18 per month for SquareSpace[4]. Over 12 months, this will total 12 month * 18 $/month = $216.

Our most expensive cost of all will be hiring developers and customer support to maintain and enhance our product. These developer(s) will need to be in charge of fixing bugs that arise as users play our product. They must have good skills in Java, Swing, and Socket-layer networking. We also assume that these developer(s) will add features based on our users demand for them. The median salary for a software developer is about $95,000[6]. Because of this huge cost, we estimate that we will only be able to afford hiring one software developer. We hope to be able to save costs by hiring a less experienced software developer and paying them less than the median salary. Our revised estimate for our 1 software developer is $80,000. In the future, we expect to hire more developers once our revenue grows.

We also estimate that we will need to hire someone to act as customer support for users of our product. This person will need to be both good at communicating with developers and have enough technical knowledge to communicate potential problems with our . The median pay in 2015 for a customer service representative was about $32,000[7]. As a small tech startup, we expect that our customer service representative will be more technically knowledgeable than the median customer service representative. Our revised salary for the customer support representative is $40,000. Likewise, we expect to pay them more than median. Like software developer, hiring a customer service representative represents a huge cost and our estimates show that we will only be able to afford hiring 1 person. Again, we expect to hire more as our app's popularity grows.

Table

Service	**Cost**
EC2 Hosting	$105.12
Domain name	$12
Squarespace hosting	$216
1 Software Developer	$80,000
1 Customer Support	$40,000
Total	$120333.12

This table shows the costs listed above for one year.

Conclusion

Our analysis estimate the costs of operating our “networked checkers board game” app. Our final table shows our best guess of different costs. These costs are mere estimates and may not accurately reflect the actual cost of each service. In addition, there are many other costs that we may have not even considered. New companies often have trouble with spending beyond their means, so we have tried to keep our costs low. So, we recognize that unanticipated costs may occur so we allocate $80,000 additional funds to “Other”.

Potential uses of our “Other” fund could be from any number of categories including but not limited to branding, web design, graphic design, and marketing. Extra funds could also be used to hire an additional developer if it is absolutely necessary. While we cannot anticipate everything, we think we can safely set our “Other” category to $80,000.

In conclusion, to maintain our application for a period of 1 year we will need significant funds to keep the application running. The biggest costs come from hiring people to work on the app but other costs include maintaining a server and a website. These costs can be hard to estimate but we have done our best to provide reasonable costs for our needs. We estimate the costs of running this application for 1 year to be about $200,000.

Sources

[1] https://en.wikipedia.org/wiki/Amazon_Elastic_Compute_Cloud

[2] https://aws.amazon.com/ec2/pricing/

[3] https://domains.google/

[4] https://www.squarespace.com/pricing/

[5] https://support.google.com/domains/answer/6010092?hl=en&_ga=1.191190250.1750153808.1481700149

[6] http://money.usnews.com/careers/best-jobs/software-developer/salary

[7] https://www.bls.gov/oes/current/oes434051.htm