Printing Station Project Description

Name of implementing agent(s): Duy Nguyen
Project location: Society for Computer Engineering or remote
Project starting date: 9 June 2014
Project ending date: 11 August 2014
SCE inputs ($US): $0.00
Agent of Implementation inputs ($US): $0.00
Other inputs ($US): $0.00
Project Monitor: Khalil Estell
Monitoring Period: Every 2 weeks

Technologies to be used:

1. HTML (HTML5 standard)
2. CSS (CSS3 standard)
3. JavaScript (latest ECMAscript standard)
4. PHP (other allowed server side programming languages are Python with Django and JavaScript with Node.js)
5. MySQL or MongoDB
6. CUPS (printing daemon)
7. Ubuntu, Server Edition
8. Unix XPDF tools

The Project Description has five sections:

I. Background and justification of the project
II. Objectives of the project
III. Project implementation and management
IV. Project budget

I. BACKGROUND AND JUSTIFICATION

A. The printing services of SCE (black and white) is one of the hooks that really drives our members new and old back to SCE.
B. One of our biggest issues is controlling the amount that people print. Some new members forget about the printing policy and print far beyond their quota. There have also been multiple occasions where members have printed whole books from our printer, without concern for the other members who might want to use our services after them.
C. Rather than use a single access point (client computer) for printing, this project would replace it with a web interface that allows users to print from their own computers.

II. OBJECTIVES: The objectives stated here are in order of priority and importance. Immediate Objectives [1-5] are needed to complete this project. Beyond this are features that can be added later on or if the main objectives have been completed.

A. **Immediate Objectives**
   1. To allow users to print from their own computers from the **SCE Core** website using the **Portable Document Format** (pdf).
   2. To account for all prints made by members.
   3. To be able to respond and queue prints from multiple users at once.
   4. To notify the user of the status of their print. (rejected, in queue, printing, printing complete ,etc.)
   5. To log information about the status of a user prints for record keeping. (log everything from objective **4**)

B. **Additional Objectives (optional)**
   1. Allow officers to clear queue or force reject a print.
   2. Only allow printing from San Jose or from just San Jose State University (the choice is up to the Agent of Implementation). (using a whois lookup to figure out where the IP address is coming from).
   3. Give officers an interface to see information about the printer i.e toner levels, pages printed in a period of time, log of jobs, etc...
   4. Add an officer indicator/notifier on SCE CORE that notifies officers that the printer is out of paper. (Khalil will handle most of this)

C. **Expected project results:** To increase the service value of printing in SCE. This result will allow SCE:
   1. To acquire more members.
   2. To sustain current members.
   3. To collect data about printing habits.
   4. To make our printing services more accessible to our members.
   5. To handle printing in parallel (we no longer have to wait for someone to leave the printing station in order to print).

III. PROJECT IMPLEMENTATION AND MANAGEMENT PLAN

A. **Project Beneficiaries**: The beneficiaries of this project will be exclusively SCE members. There are usually 100-200 members and almost all of them use our printing services.

B. **Implementing agent management of project**:
   1. **Agent(s):** Duy Nguyen.
   2. **SCE given arrangements:** A chrooted user will be created on the SCE CORE Mainframe to allow the Agent(s) of Implementation to work on his specific project on the server.

C. **Implementing phases:**
   1. Development Phase: (these are steps that you can choose to take)
      a) Build a simple web application that will print a pdf when uploaded.

    b) Add MySQL into the equation, and start creating dummy users, and come up with a system that records printing actions by users and also notifies the user when it is complete.
    c) From here, complete all of the immediate objectives.
2. Integration Phase:
    a) Fork the SCE CORE POS github and integrate the UI into your application
    b) At this point, you will be given and account to SSH into and you will pull your repo into the root of that folder. The ssh root will be the folder where the project will be placed.
    c) You will also be given a MySQL database along with a specific user for that database where you can run your MySQL scripts to get the tables and layout in order. Do not fill it. Create a system that auto populates when people start using it.
    d) Final integration stage: make http requests to SCE CORE to get information about the user so that you may format the page accordingly.
3. Testing Phase:
    a) Four actual people will make accounts and see if they can get prints to print.
    b) We will test the system for printing multiple pages all at the same time. (Testing the Queuing system)
    c) We will test for overdraft. (Printing past limit)
    d) We will test for malformed PDFs. (Use of PDF tools)
    e) We will test for all notifications. (Seeing the whole process run)
4. DONE!

IV. **BUDGET:** This project does not require any resources beyond what is given, therefore a budget is not applicable.