**Company Description:**

Our company is called JMA – Construction CO.

We specialize and pride ourselves in offering construction solutions to our varied amount of clients. Our regular business hours 9 – 5, with the exception of our on-call staff and we are open 6 days a week. We are a nationwide now, firmly established in several states. These are the following states and their respective # of locations: NY = 4, CT = 3, CA = 7, AZ = 6, TX = 5, NJ = 3, FL = 5 making it a total of 33 locations that we have throughout the country. Each state has its own Headquarters that takes care of its local business locations respective to each state. Our main headquarters Is based in California, therefore the HQ located in this state acts as the national HQ that oversees all of the other respective HQ’s we have in the country. We have a total staff of 1000 internal workers that vary in trade and skill. They range from plumbers, electricians, ceramic workers, sheet rock etc. we have an extensive and diverse group of individuals suitable for any job. We also do sub contract to other companies depending on the location and the size of the project as well.

The main way we do business with our clients is by either:

* attending various types of service calls
* establishing contracts for sites of development that may vary in length from a few months to even years
* lastly maintenance contracts

Our service calls that we attend can vary through the different services that we provide. However, we do charge at an hourly rate which can range from $60 - $100 or more per hour. Generally, the service calls consist of general maintenance or adding onto an existing service such as installing new lights, building/knocking down walls within a current building, laying new pipe for plumbing etc. The service calls usually last between 1 day to a week and at the end we bill the client the total amount of labor hours. Now as far as the contracts go, these definitely vary in pricing details because it depends on the site, the magnitude of the client’s requests, estimated labor costs, deadlines, estimated materials needed and a lot of other factors that may very well vary. However, once we do sit down with the client and iron out the details as far as what they want and what we will be required to do, we do require an initial deposit in order for us to finalize the deal and commence with the job. The amount of the deposit is also dependent on the size of the job as well. Our maintenance contracts are settled with the client so that we may provide assistance on the service specified in the contract in the event of anything that goes wrong or simply doing routine maintenance. We charge a steady monthly fee that does not fluctuate (unless the client adds more things that we need to cover) and once more it depends on the size of the location we are covering and ultimately how many different services we are covering. On average across our different locations, we receive about 1,440 – 1,920 service calls a month (60 – 80 per day approximately), 10 – 20 medium sized to large contracts per month and we have about 200 maintenance contracts with different buildings across the nation. Therefore, our gross annual income is roughly around 400 million.

We also have 3 main suppliers for our materials needed:

* Wesco Distribution Inc
* United Rentals
* Grainger Industrial Supply

Now as far as our clients go, we categorize them in 3 different ways:

* Residential
* Small business
* Corporate

Now that our backstory is covered, it is clear to see that we have to keep track of many many things in our business. Not just in relation to our clients but also internally in our own authorization processes, workflow and expense management. The main locations of our business that will profit from the new information system proposed (even though in reality, all would benefit) would be our state HQ’s and our national HQ.

**Scope Definition:**

The type of information system will be a mixture between a Transaction Processing System and a Management Info System. This type of information system is essential because it will greatly minimize delays and mistakes when it comes to all of the transactions made in our various locations. This new system will also allow our National HQ to keep track of all the other state HQs in their spending and making sure that all the protocols of the company are being properly followed and executed. Lastly, it will greatly improve the workflow between all remote locations by giving real-time access to information and reports needed (especially in time sensitive cases). Approximately the design, implementation and installation of this system will take about 9 months. Once the proposal for the actual system is approved we will immediately commence to work on the Data storage part of the Information System. A group of 25 professionals will be hired to complete this information system per parts. These employees will be divided into 3 separate groups to tackle the 3 parts of the system, which are data storage, software and the UI. A group of 10 professionals’ in SQL-based data base development will be set apart to work on the Data storage section of the System. Another group of 10 software developers (proficient in either 2 or more languages) will be hired to write the code as to how the users through the UI will be communicating/doing processing within the system. Lastly the remaining 5 employees will be in charge of developing the UI of the system and making it as simple and comprehensive for the end user as possible. Firstly, we will start with the data storage part of the system which will be built within the first 3 months of this project. Once the storage part of the system is in place we will dedicate 4 months for the code which will act as our internal business logic to be created and lastly the remaining 2 months will be focused on creating the UI for the end user. Our budget for the entire project of this new information system will be $921,722. Each group (Data storage and programmers for business logic and UI) will be led by their own respective senior developer who will oversee their respective part(s) in the system’s development. Once the system is developed, our own internal IT staff will be in charge of actually setting up the system for the end users to work with throughout our different locations.

Breakdown:

* **The Database Developers** will each receive a salary of $7,000 per month (9 developers). And the senior developer that will oversee the project will receive $8,416 per month. The total amount of time that the data storage will take to be developed is 3 months. Therefore, the total amount of money invested in this part of the system will be $214,250
* **The Programmers of our business logic and user UI** will each receive a salary of $6,833 per month (14 developers). The senior programmer will receive a salary of 9,750 per month. The duration of this second half of the project will last for 6 months. The total amount of money that will be invested in these two remaining parts of the system will be $632,472
* **On reserve** We will also have $75,000 on reserve just in case of any delays or extra expenses along the way besides the salary of the workers.

**Problem Analysis:**

* We currently depend on a 3rd party software system that allows us to do transactions and store client and job related details but it is a system that is only individual per business. The software does not integrate with any of the other locations that we have. In order to share any information from location to location (such as general client, materials ordered/needed, transaction etc. reports) we use excel spreadsheets shared through microsoft one drive. We manually pull up the report and update the spreadsheet manually to keep check of all our local businesses and HQ’s. This tedious way of recording our day to day activities and sharing it with Headquarters really slows the workers from attending more requests/service calls and contracts more quickly and it is not an efficient way of sharing data across business locations due to many mistakes also found in calculations and things being input erroneously.
* Our authorization process is based on the type of clientele that requests it. If the service call or contract is made by a residential or small business client, then the HQ (if the request is made in one of the local businesses that we have within that state) of that respective state must be the one to approve the transaction. If it is a corporate job as far as raising a building, long term construction project, or the budget exceeds 1 million, then both the HQ of the state and the national HQ must approve first before it is actually authorized. As far as ongoing materials requested, state HQ must be the only one to approve for residential and small business but corporate is approved by state HQ and national HQ.

**Requirements Analysis:**

Clients:

* The client (our main contact on site for each job, service that we provide) will be provided with an ID and password unique to that specific job. They will use these credentials to log onto our website and there they will be able to see the current progress on the job that they requested from us. And they will see a clear and brief plan in regards to what is still left to do within that site in sequential order along with good estimated dates until the deadline (which we initially would determine with the user). They will also have an option to put feedback from their end on their general experience or critiques of our job. Overall this will be a very interactive system for our clients in which they will feel a part of the job every step of the way.
* The client will also have the option to make their payments using our system. They can either set it up to be something automatically deducted from the bank account or credit card (depending on how long the project may be). We will offer plans and try to be as flexible as possible when it comes to payment.

Suppliers:

Administrators:

Employee:

* The project manager (whether he is onsite or in a remote location) for each site will have access to the profile of the current client to which the job is being done for and will be able to monitor the progress, payments, expenses, materials needed, permits acquired/needed, blueprints and all other important details pertinent to that specific site. The on sight supervisor(s) (depending on how big the job is) will be in charge of updating the current client’s profile in all these aspects so the project manager can oversee everything as a whole. This will be extremely beneficial for the project manager to constantly be ontop of all of the necessities of the current job.
* Store all of our past and current clients, suppliers and companies we sub-contract
* Automate the workflow between our local sites and their HQ’s (because approval for major transaction must go through them before its actually processed)
* Must link up all our local business locations and HQ’s across the states to generate reports on expenses, inventory, orders/transactions processed etc.
* Must keep track of all payments made (both from clients and to our suppliers), all pending jobs/projects with their respective details (payments, progress, workers involved, materials in use)