COOGNET (FORMALLY KNOWN AS COUGAR TECH NETWORKING)

College of Technology: CIS 3343 – Systems Analysis and Design

Second Deliverable Binder

Systems Analysis Project

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Client Organization History/Background

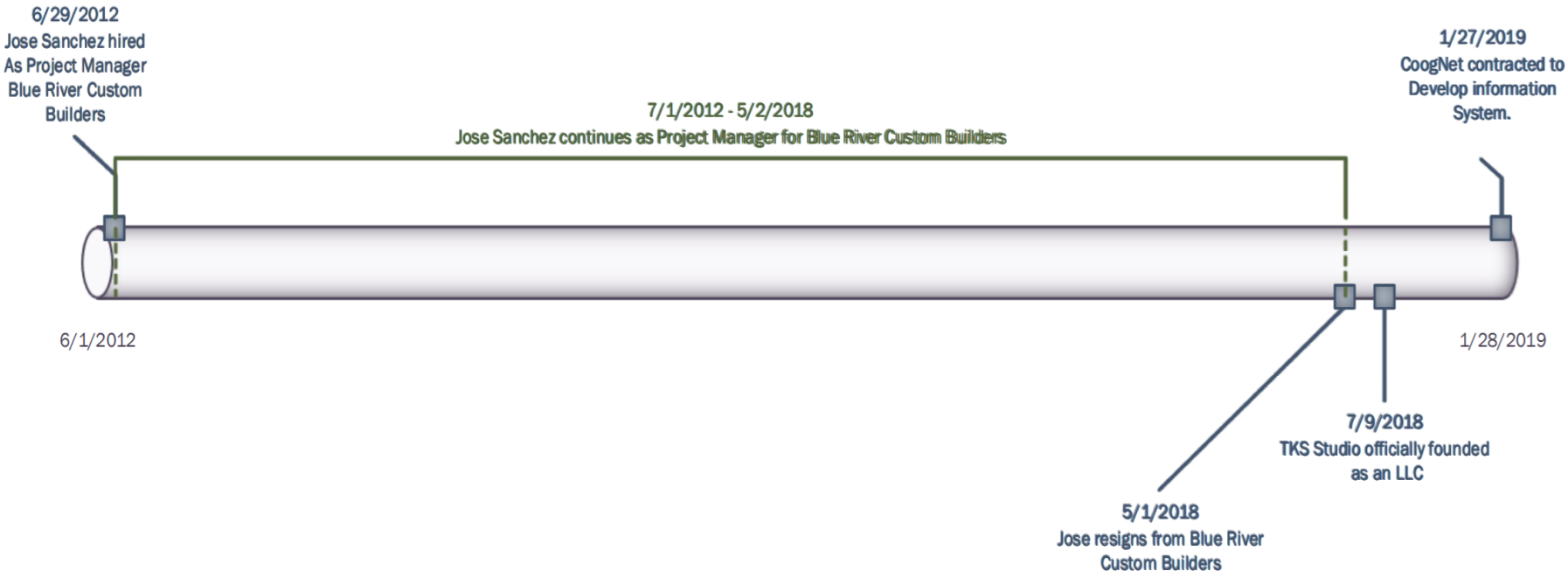
Introduction

TKS Studios is an architectural designer firm in Houston, Texas. The organization is best known for its work in kitchen and bathroom areas. There are seven principles that TKS Studios follows: purpose, integrity, consistency, team, understanding, reputation, and excellence. TKS Studios is accredited by the Better Business Bureau, Home Advisor, Greater Houston Builders Association, Texas Association of Builders, National Association of Home Builders, and The Home Depot Pro.

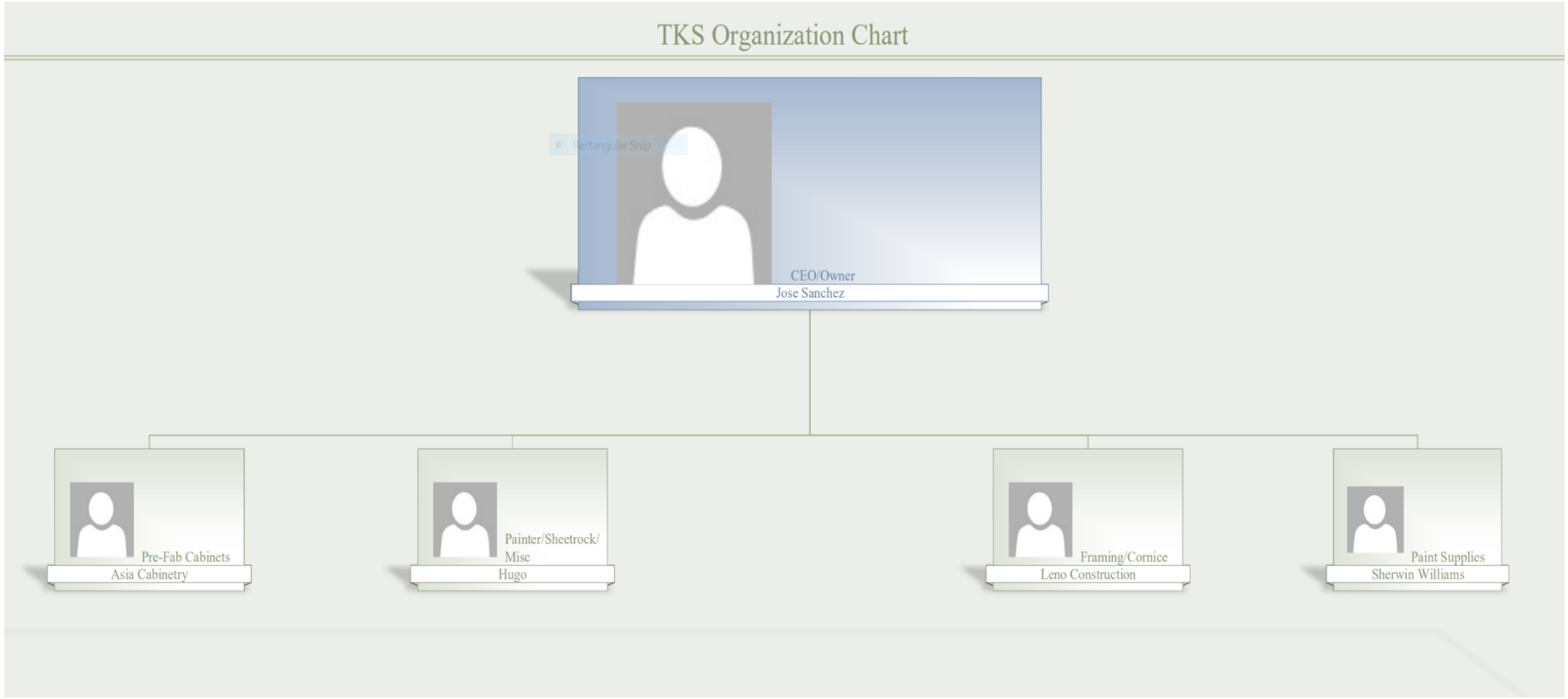
History

TKS Studios was founded in July 2018, though, Jose Sanchez, the organization founder and CEO, has been in the building and contracting industry for more than six years. Mr. Sanchez is skilled in residential construction, Computer-Aided Design (CAD), Project Management, and Budgeting. He is also a strong business development professional with an Architecture degree, a minor in Construction Management, and a certificate in entrepreneurship. At TKS Studios, they take great pride in their experience and expertise, and in the quality of their work as well as the customer service that they provide. TKS Studios' work is concentrated on the importance of the small details that are required to produce a cohesive and purposeful design that is deserving of being built. Since their work does not stop at design, they can shepherd projects to completion, making sure that along the way nothing is overlooked, and details are improved. To understand the needs and expectations of their customers, they take great care to work and communicate with every customer in a personal and professional manner. They provide their customers with the tools, knowledge, and confidence to make the design/build process simple and enjoyable. The purpose of TKS Studios is to design and build the dreams of their customers and along the way serve the goals of their employees, tradesmen, and vendors. Residential construction is a team effort where everyone wins.

Client Organization Timeline



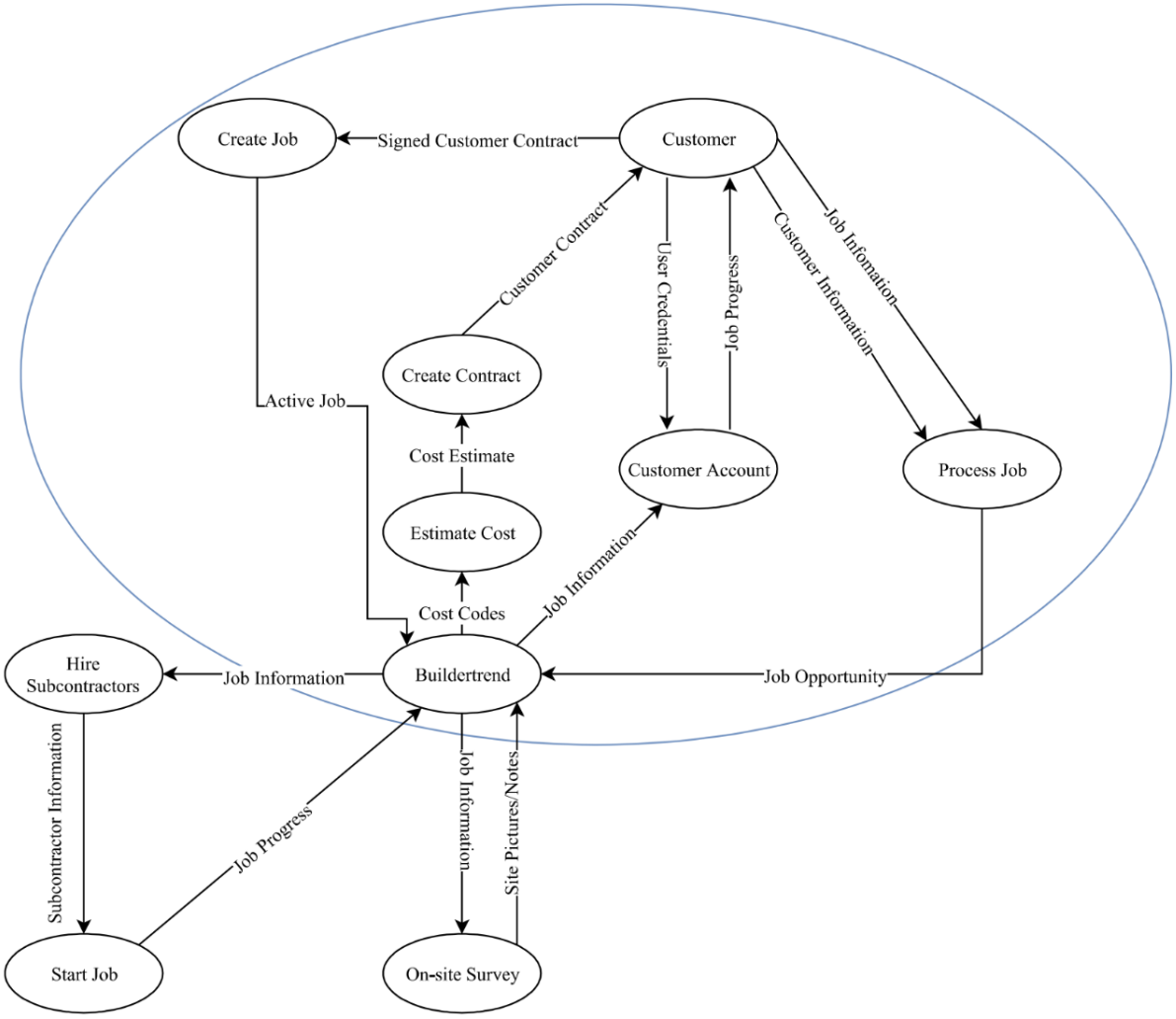
Client Organization Chart



Final Problems and Requirements List

ID	Who	Description	CAT	Rank	Result
2	Jose Sanchez	No database to export data to	M	1	Design database with the capability
5	Jose Sanchez	Database able to import data	M	2	Design database with the capability
6	Jose Sanchez	Must display custom table	M	3	Design database with the capability
7	Ayoub Fares	Where will server be housed	M	4	Server location is within the business to store hardware
8	Aidahta Natama	Ability to disply tables of current project, customers, and contractor work	M	5	Design database with the capability
10	Kavon Sabet	Ability to add new clients	M	6	Design database with the capability
11	Tyler Nullmeier	Database maintenance	M	7	Must be done weekly
12	Daniel Howard	Database security	M	8	Software and passwords will be used to enforce security
13	Jorge Sanchez	Who will maintain the database	M	9	hire or delegate task to employee
14	Aidahta Natama	Delete user access	M	10	Design database with the capability
17	Aleena Khan	Edit user permissions	M	11	Design database with the capability
22	Tyler Nullmeier	Track number of projects initiated	M	12	Design database with the capability
25	Kavon Sabet	Database backup	K	1	Back of database on a daily basis
1	Jose Sanchez	Unable to export data	K	2	Design database with the capability
4	Trent Jones	Must store past client data	K	3	Design database with the capability
15	Trent Jones	Online or internal server	K	4	Online server will be used
16	Kavon Sabet	Who will be an administrator of the database	K	5	Jose Sanchez will be the administrator
20	Eduardo Tostado	Ability to create an invoice on the same application	K	6	Design database with the capability
23	Tyler Nullmeier	Ability to see who made changes to the database	K	7	Design database with the capability
24	Trent Jones	Approval rights to add new user	K	8	Design database with the capability
9	Daniel Howard	Multiple users accessing the database simultaneously	D	1	Design database with the capability
3	Jose Sanchez	User Friendly Interface	D	2	Design GUI fore database using JavaFX
18	Eduardo Tostado	No set limits for the number of clients	D	3	Must acquire enough storage space to store clients
19	Ayoub Fares	Easy navigation through database tabs	D	4	Design database with the capability
21	Jose Sanchez	Want on the go database from anywhere	D	5	N/A

Scope Diagram



Client Organization Objective List

Over the next five years, our client's objectives are as follows:

- Scale to larger remodeling jobs (100,000 to 500,000 projects)
- Two to three employees to hire and maintain
- Be totally dependent on referral jobs
- Increase profit by $50,000 each year
- Have an office that the company owns
- Two to Three company vehicles
- Sponsor local charities and events
- Become a household name in the area

Client Application (System) Objective List

To:

- Design and develop an all-in-one information system that will give the client the ability to export and import data to and from the existing invoice system, to create forms for client information records, and to make cost estimations.

In a way that:

- Can be done more efficiently than the system currently in use.
- Can import data from Mr. Sanchez's current software program to the new database.
- Can export data from our database to forms, price estimations, or reports.

So that:

- Less time will be spent processing, entering, and locating data.
- Mr. Sanchez will have more time to allocate to other business operations.
- More assets can be devoted to finding new customers.

Can be measured by:

- The total amount of time devoted to current document and form creation, organization, storage, and retrieval. This yields a savings of $13,000 in consultant fees per year which will be provided for free as a part of this project.
- The time saved by employees or contractors who may import, export, or manage the forms and other documents that are used as a part of the current system.
- Customers who provide regular business as a result of increased efficiency and organization.

Individual Users Objective List

Jose Sanchez - CEO/Founder

- Chief Executive Officer and founder of TKS Studios with six years of experience in architecture.
- As CEO of his lean organization, Mr. Sanchez handles most aspects of his organization's operations.
- This system would allow Mr. Sanchez to access customer and job information in a more cohesive and coordinated way.

Subcontractors - Additional Support

- Additional support from outside TKS Studios helps the organization build the end result of the design.
- In this role, individuals need remote access to job information that is regularly updated.
- The proposed system would make it easier to remotely access the most up-to-date job information.

Samples of Records

2/19/2019 Job lead. Leads

Customer Contact Details

Save | Save & New | Delete | Print

Created by Jose Sanchez on 1-23-2019

Display Name*
Alex Andino

Street Address
22322 Deville dr

Phone

Cell Phone
8325249609

City
Katy

State
Tx

Zip
77450

Email
andinoalex@icloud.com

Cell Email (SMS Text)

▼ Custom Fields (0)

Admin users can add custom fields for Contacts in Setup

Lead Opportunities

Opportunity Title	Status	Created Date	Sold Date	Salesperson
22322 Deville - Alex	Open	1-23-2019	N/A	Jose Sanchez

Jobs

No Jobs Found

https://buildertrend.net/Leads/LeadsList.aspx 1/2

Samples of Records (Cont.)

Job Opportunity.

Lead Opportunity Details

Cell Email (SMS Text)

Email

▼ Custom Fields (0)

Admin users can add custom fields for Contacts in Setup

General Activities (0) Proposals (0) Files (0) Notes

Opportunity Title*

Street Address (Copy From Contact)

City

State

Zip

Confidence

0 %

Projected Sales Date

Salespeople Jose Sanchez

Tags

Job Type -- None --

Source -- No Lead Sources --

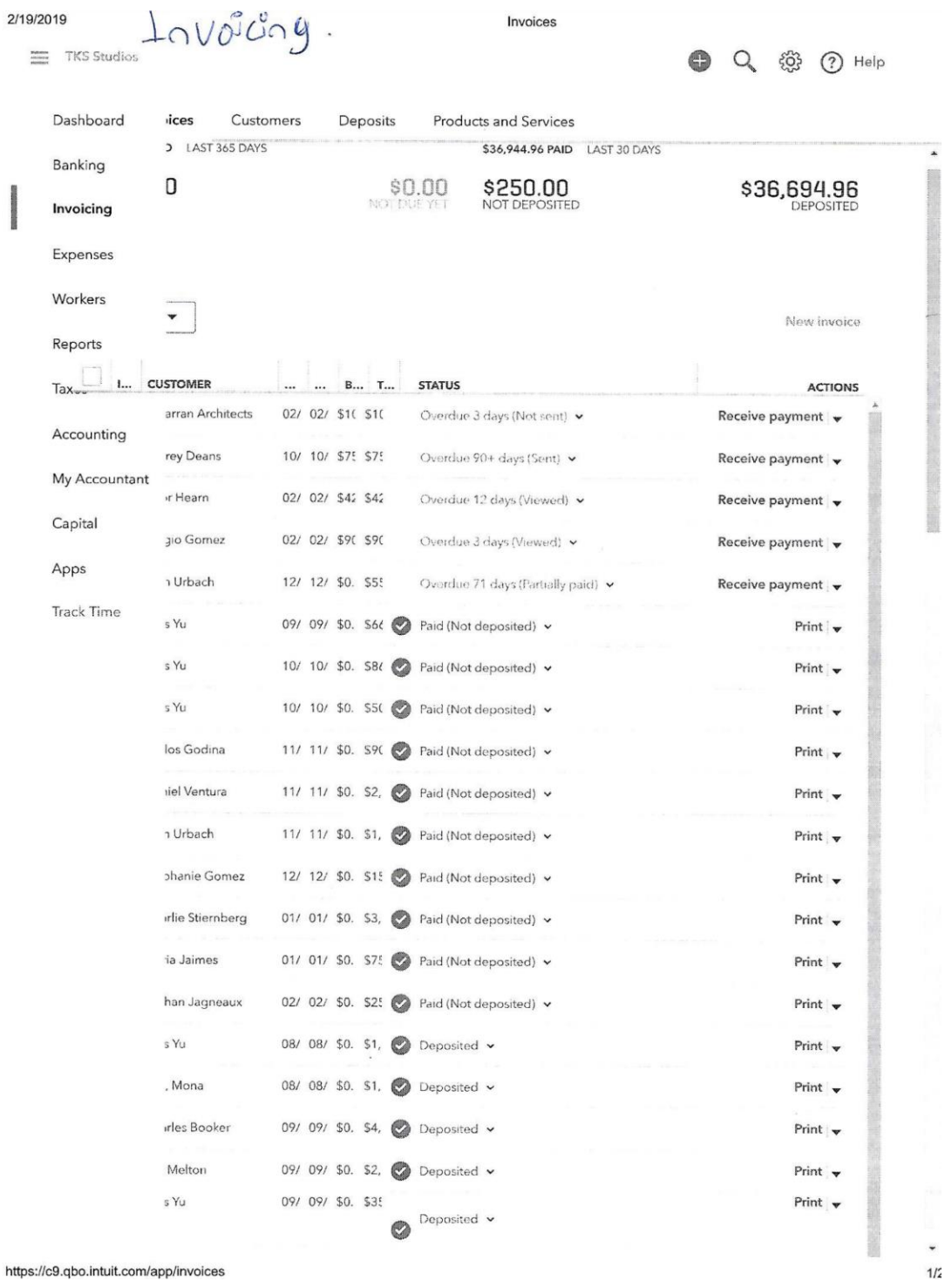
Status Open

Est. Revenue $ 0 to $ 0

▼ Custom Fields (0)

Admin users can add custom fields for Leads in Setup

Samples of Records (cont.)



Samples of Records (cont.)

2/19/2019 Contract.

Your Proposal

6306 Willshire Fern • Houston, TX 77040 • Phone: 832-364-7686

Akash Narang

1801 Radcliffe St
Houston, Tx 77007

Print-date: 2-19-2019

The following is an Proposal (Document) drafted by TKS Studios(Contractor) for Akash (Home Owner) owner of 1801 Radcliffe (Project).

A.) Time of Completion

- We expect the proposed work to take 2 work weeks. Weather or material delays may cause delays beyond our control.

B.) The Contract Price

- The cost for the project as specified in the construction documents shall be set at the sum of ***Seven Thousand Eight Hundred and Sixty Five Dollars ($7865.00)*** subject to additions and deductions pursuant to authorized change orders and allowances.
- The Owner and the Contractor acknowledge that the Owner will pay a sum of ***Three Thousand One Hundred and Forty Six Dollars ($3146.00)*** upon signing of this contract and before the work begins as a deposit and part of the purchase price of the project.

C.) Contract Documents

- The contract documents consist of this agreement, specifications and scope of work, allowances, finish schedules, construction draw schedule, information disclosure statement, all addenda issued prior to execution of this agreement and all change orders or modifications issued and agreed to by both parties.
- All documents noted herein shall be provided to the Contractor by the Home Owner. These contract documents represent the entire agreement of both parties and supersede any prior oral or written agreement.

Price Breakdown

Code	Description	Qty / Unit	Unit Price	Price
116 Permit	Pull permit for shower pan only	1	260.00	$260.00
135 Demolition	Demo existing shower tile and shower pan.	1	650.00	$650.00
138 Site Preparation		1	260.00	$260.00
240 Frame Labor	Build shower curb	1	260.00	$260.00
300 Plumbing	Install shower liner Remove and install shower trim(valve not included) Adjust shower drain for shower liner install	1	780.00	$780.00
380 Sheetrock Turnkey	Touch up drywall after master shower removal Patch drywall hole on downstairs bedroom Fix seems on drywall sheeting	1	1,040.00	$1,040.00
480 Paint	Paint downstairs bedroom ceiling touch up paint on the edge of shower after install	1	650.00	$650.00
509 Tile Material	92 sq ft of wall tile 15 sq ft of floor tile	1	715.00	$715.00
510 Tile Labor	Install new shower floor and walls	1	1,690.00	$1,690.00
628 Interior Cleaning	Remove all debris created by our work	1	260.00	$260.00
668 Mirror/Shower Door	Provide and Install new shower door (Optional if old shower door works)	1	1,300.00	$1,300.00

Total Price: $7,865.00

D.) Insurance

Samples of Records (cont.)

2/19/2019

Your Proposal

- The Contractor shall purchase and maintain needed Liability insurance coverage as required by law and deemed necessary for his own protection.
- The Owner shall notify his insurance company that construction work is taking place on the property.
- The Owner will purchase and maintain property insurance to the full and insurable value of the project, in case of a fire, vandalism, malicious mischief or other instances that may occur, not caused by the Contractor's performance of the work.

E.) Permits and Registration

- Contractor shall comply with all city and state licensing and registration requirement for the type of work involved.

F.) Unknown

- Unforeseen conditions or circumstances are neither assumed nor anticipated in the scope of work and will be brought to the clients attention immediately upon discovery by Contractor's personnel for prompt resolution.
- Estimate could change upon discovery of the need for additional work and or materials once the project has started.
- If a delay and / or price increase on Materials occurs at any time in the commencement or progress of the work due to a delay in the delivery of materials beyond our control and fault, we will be afforded an equitable adjustment of contract time and/or contract price.

G.) Subcontractors and Third Parties

- Contractor may use subcontractors, but shall be solely responsible for supervising their work and the quality of work they produce
- Contractor agrees to hold harmless and indemnify Home Owner for all damages, costs and attorney fees that arise out of harm caused to contractor, subcontractor and other third parties by contractor's performance of the specified work.

H.) Change Orders

- Any alterations or deviation from the above specifications involving extra costs will be executed only upon written consent by Home Owner and will become an extra charge over and above the estimate.

I.) Warranty

- At the completion of this project, Contractor shall execute an instrument to Home Owner warranting the project for one year against defects in workmanship or materials utilized. The manufacturer's warranty will prevail.
- No legal action of any kind relating to the project, project performance or this contract shall be initiated by either party against the other party after 2 years beyond the completion of the project or cessation of work.

L.) Agreement

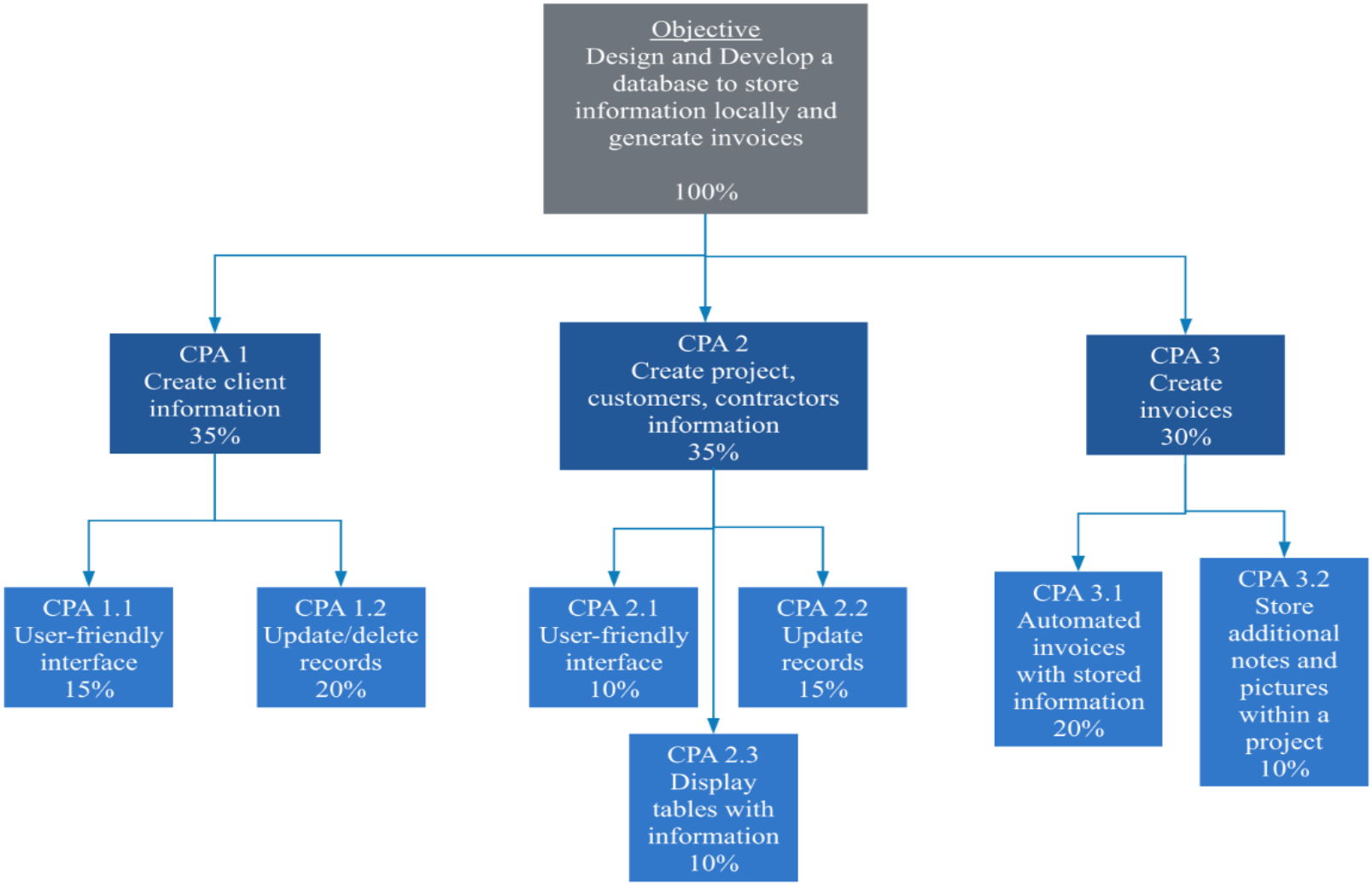
- Home Owner agrees by signing this document to have TKS Studios perform the work as described above.
- TKS agrees to perform the work described above adhering to industry standards and local building codes.

Signature _____

Print Name: _____

Date: _____

Critical Requirements Analysis Objective Tree



Sponsor Decision of Systems Proposal

TKS Studios
6306 Wilshire Fern, Houston, TX 77040
(832) 364-7686, tks.joses@gmail.com

Date: March 21, 2019

Re: CoogNet

To whom it may concern,

I am writing to inform CoogNet that after reviewing their proposals, TKS has decided to go with their recommendation of Option One. We are excited and look forward to the development and testing of this database system with our subcontractors and clients. We at TKS Studios will continue to provide feedback and answers to any questions that CoogNet has.

Sincerely,

Jose Sanchez, CEO

Required System Entity Relationship Diagram

See Next Page

Required System Business Rule List

- TKS Studios schedules and hosts routine client meetings concerning the project overview
- Consistent checkups are conducted on projects at all locations
- Software generated demos of projects are designed then refined for usability
- Contractors submit status reports concerning unexpected issues, obstacles, and additional supplies required
- Projects involving structural work are automatically scheduled for inspection by an engineer
- Priorities are set on promising project leads to increase project opportunity attainment
- All projects are documented by photo and video from the beginning to end for insurance and advertisement purposes
- Social media presence must be appropriately maintained and in compliance with company goals
- Completed projects are scheduled for two weekly checkups to ensure exceptional quality and customer satisfaction

Required System Business Activity List

Yearly

- Analysis of software generated annual reports concerning finances, customer feedback and contractor quality rankings.
- Review of company prospects regarding expansion of clients.

Quarterly

- Meeting with subcontractors to discuss and address project concerns.
- Renewal or establishment of contractor insurance policies.
- Search initiatives for prospective clients.

Monthly

- Server and software subscription costs are paid automatically.
- A maintenance check is conducted to ensure the system is operationally sound.

Weekly

- Prospective meetings are conducted with potential clients.
- Client meetings concerning project status, possible concerns, and financial standing.
- Follow-up meetings with clients to ensure satisfaction with the completed work.
- Evaluation of project scheduling and accumulated costs.

Daily

- Report concerning project status and estimated completion.
- In person visit to each active jobsite.
- Meetings with contractors to allocate resources and coordinate project work.

Required System CRUD Matrix

Entity Process	Customer Account	Work Order	Material Requirement	Job Proposal	Job Contract	Invoice	Change Order	Site Survey Notes	Architectural Review
Create Customer	C								
Create Work Order	U	C	R		R				
Estimate Materials Cost			R		U				
Create Job Proposal	R		C	C					C
Sign Job Contract	R		R	RD	C				R
Create Invoice	R	R	R		R	CRD			
Create Change Order	R	R	R		R		C		R
Modify Project		U	U		U		R		U
Create Site Survey	R	R			R			C	
Revise Site Survey	R	R			R			RU	
Remove Job Proposal			D	D				D	
Remove Job Contract		D	D		D		D	D	D
Remove Customer	D	D	D	D	D		D	D	D

Use Case Scenarios

Author: Kavon Sabet

Use Case Name: Transfer data from spreadsheets/hardcopy documents to TKS Studios' software	**Use Case ID:** 0001
Area: Data Transfer	
Actor(s): Developer	
Description: Allow developer to transfer data from spreadsheets/hardcopy to TKS Studios' system.	
Triggering Event: Project manager assigns task to transfer data	
Steps Performed	**Information for Steps**
1. TKS will login to the information system.	UserID, Password
2. TKS will locate the vendors skill set, that will be determined	The vendor's skills
3. TKS will update its system to reflect the vendors skillset	Entering of the skillsets
4. Data is successfully uploaded into the system	Data Conformation
Precondition: TKS has the vendor's skill set to input into the information system.	
Postcondition: TKS successfully entered the data into the information system.	
Assumptions: TKS has the vendor's skillset and is ready to enter it into the system.	
Success Guarantee: TKS can enter, update, and edit the information into the system	
Minimum Guarantee: TKS can enter information into the system.	
Requirements Met: Allow TKS to enter information into the system.	
Priority: High	
Risk: Medium	

Use Case Scenarios Cont.

Author: Kavon Sabet

Use Case Name: Add new client information	**Use Case ID:** 0002
Area: TKS database	
Actor(s): Product Director, Director of Customer Success, Developer, Analyst	
Description: TKS will be able to add new client information as the company expands their business.	
Triggering Event: New client request for proposal.	
Steps Performed	**Information for Steps**
1. Client requests a contractor to estimate the costs for construction.	Proposal type
2. TKS Studios employee logs into database.	UserID, Password
3. TKS Studios employee adds client information into database.	Client information
Precondition: New client requests a project	
Postcondition: TKS contractor comes to the site to evaluate and proceed with estimates.	
Assumptions: Client is a new customer with TKS Studios.	
Success Guarantee: Client receives the cost breakdown report for the job.	
Minimum Guarantee: Client requests cost breakdown report from TKS Studios.	
Requirements Met: Add new client to the database.	
Priority: High	
Risk: High	

Use Case Scenarios Cont.

Author: Kavon Sabet

Use Case Name: Client Feedback	**Use Case ID:** 0003
Area: Feedback	
Actor(s): Developer, Analyst, Product Director, Project Manager	
Description: Clients will be able to provide feedback on the work that was done by TKS Studios and the reports that were provided to them.	
Triggering Event: Client receive report of project completion.	
Steps Performed	**Information for Steps**
1. TKS Studios sends a Feedback request form to the client.	Client information
2. Client fills out the provided questionnaire.	Email, Q&A document
3. TKS Studios employee jots down feedback.	Questionnaire is filled out
4. TKS employees examine the feedback whenever client requests a new project.	UserID, Password, database access
Precondition: Client's competencies request is fulfilled.	
Postcondition: Feedback is taken into account.	
Assumptions: Client is inclined to provide feedback.	
Success Guarantee: Client fills out questionnaire with detailed feedback.	
Minimum Guarantee: TKS employee sends questionnaire to client.	
Requirements Met: Allow clients to provide feedback.	
Priority: Medium	
Risk: Low	

Use Case Scenarios Cont.

Author: Tyler Nullmeier

Use Case Name: Create Active Job	**Use Case ID:** 0004
Area: TKS Studios' Management System	
Actor(s): CEO/Owner, Management, Analysts	
Description: Allow user to create an Active Job from a Job Opportunity.	
Triggering Event: Internal user clicks command button on Job Opportunity Details Page.	
Steps Performed	**Information for Steps**
1. Job opportunity is copied into database table that contains active jobs	Job Opportunity ID
2. Job opportunity is removed from the database table opportunity was successfully made active.	Job Opportunity ID
3. Management interface informs the user that the job opportunity was successfully made active.	Customer Name, Job Opportunity Address
4. Management interface prompts user to print job contract for the customer to sign.	
4.1. If user clicks yes, then print the job contract and mark job status as pending user signature.	Active Job Record
4.2. If user clicks no, mark job status as pending.	
Precondition: User is logged into management system and is on the Job Opportunity Details Page.	
Postcondition: Job opportunity is moved from database table containing job opportunities to database table containing active jobs.	
Assumptions: User has access to management system and valid user ID and password.	
Success Guarantee: System creates active job and prints job contract.	
Minimum Guarantee: System creates active job.	
Requirements Met: Allow user to create an Active Job from a Job Opportunity and print a job contract.	
Priority: High	

Risk: Medium

Use Case Scenarios Cont.

Author: Tyler Nullmeier

Use Case Name: View Job Opportunity Details	**Use Case ID:** 0005
Area: TKS Studios' Management System	
Actor(s): CEO/Owner, Management, Analysts	
Description: View details about a job opportunity that was previously posted by a customer.	
Triggering Event: Internal user navigates to Job Opportunity Search interface.	
Steps Performed	**Information for Steps**
1. User searches for job opportunities	Job Opportunity Query
1.1. If a city is entered, display all Job Opportunities with a matching city name.	
1.2. If an address is entered, display all Job Opportunities with a matching address.	
1.3. If a customer ID is entered, display opportunities from that customer.	
2. User opens Job Opportunity Details Page.	Job Opportunity ID
3. User reviews job opportunity details.	Job Opportunity Details Page, Job Opportunity Record
Precondition: User is logged into management system.	
Postcondition: Job opportunity is displayed in management interface.	
Assumptions: User has access to management system and valid user ID and password.	
Success Guarantee: User finds job opportunities they are searching for.	
Minimum Guarantee: User finds any available job opportunities.	
Requirements Met: Allow user to find specific job opportunities that elicit further attention.	
Priority: High	
Risk: Low	

Use Case Scenarios Cont.

Author: Tyler Nullmeier

Use Case Name: View Customer Account Creation Statistics	**Use Case ID:** 0006
Area: TKS Studios' Management System	
Actor(s): CEO/Owner, Management, Analysts	
Description: Allow user to view statistics about the number of customer accounts created in a given time.	
Triggering Event: Internal user clicks command button on Dashboard Page.	
Steps Performed	**Information for Steps**
1. Customer table is queried for customer accounts created in a specific time period.	Time Period
2. Management interface shows results of query in tabulated format.	List of accounts created in given time period.
2.1. If the option is selected, the management interface generates a graph of account creation trends.	
Precondition: User is logged into management system and is on the Dashboard Page.	
Postcondition: Detailed information regarding customer account creation is displayed.	
Assumptions: User has access to management system and valid user ID and password.	
Success Guarantee: System highlights useful trends in customer activity.	
Minimum Guarantee: System displays customer account creation statistics.	
Requirements Met: Allow user to view statistics about the number of customer accounts created in a given time.	
Priority: Low	
Risk: Low	

Use Case Scenarios Cont.

Author: Daniel Howard

Use Case Name: Passwords for Database Access	**Use Case ID:** 0007
Area: Database security	
Actor(s): CEO/Owner/ Analysts	
Description: Creating a password and username for database access.	
Triggering Event: CEO/HR hires or promotes an employee for data entry and/or database management. CEO needs to lock access for the database for security reasons.	
Steps Performed	**Information for Steps**
1. TKS CEO notices database is not password protected.	
2. TKS CEO requests a password system to protect data.	
3. CoogNet implements password system in database with specific requirements for length and characters.	
Precondition: No security measures implemented to-date.	
Postcondition: CoogNet and TKS implement an agreed upon password type including approved characters and length.	
Assumptions: TKS will protect password information and share only with trusted users.	
Success Guarantee: TKS can maintain and update future users with passwords.	
Minimum Guarantee: TKS can maintain given passwords.	
Requirements Met: A layer of database security is obtained.	
Priority: Medium	
Risk: High	

Use Case Scenarios Cont.

Author: Daniel Howard

Use Case Name: Multiple User Access to Database Simultaneously	**Use Case ID:** 0008
Area: Database Capabilities	
Actor(s): TKS Employees	
Description: Allow multiple authorized users to access the database at the same time.	
Triggering Event: Multiple users needing access to database simultaneously.	
Steps Performed	**Information for Steps**
1. TKS requests for ability to have multiple users to access the database at the same time.	
2. CoogNet sets initial permission level of database to allow multiple users.	Password protected for security
3. CoogNet designs database that will update in real time	
4. CoogNet will set permissions on datasheets that will prevent multiple instances of the same datasheet to be opened at the same time by different users.	Possible pop up window to make user aware that data sheet is in use.
Precondition: Users must already be able to log in.	
Postcondition: Multiple users can access database simultaneously.	
Assumptions: TKS users can access database or have authority to access database.	
Success Guarantee: Multiple users can update, view, or maintain database simultaneously.	
Minimum Guarantee: Multiple users can access database simultaneously.	
Requirements Met: Multiple users are able to log into and update database at the same time.	
Priority: Medium	
Risk: Medium	

Use Case Scenarios Cont.

Author: Daniel Howard

Use Case Name: Setting Database Administrator	**Use Case ID:** 0009
Area: Database Security	
Actor(s): TKS CEO/Analyst	
Description: Allowing for database to have and administrator.	
Triggering Event: TKS requests for database to have administrator level of access and security.	
Steps Performed	**Information for Steps**
1. TKS requests for administrator level access for database	
2. CoogNet will assign Jose Sanchez as database administrator for maintenance and security responsibilities.	Database security implemented.
3. Specific password and user authorization for administrator will be set.	
Precondition: Database security implemented but no admin level assigned.	
Postcondition: Mr. Sanchez will be assigned the access levels appropriate to maintain the database.	
Assumptions: Mr. Sanchez will be able to maintain good security practices to protect the admin level of access for the database.	
Success Guarantee: Mr. Sanchez is assigned as database administrator with unique username and password. Administrator will be able to access, edit, delete, etc.	
Minimum Guarantee: Mr. Sanchez is assigned as database administrator with unique username and password.	
Requirements Met: Mr. Sanchez assigned as database administrator.	
Priority: High	
Risk: High	

Use Case Scenarios Cont.

Author: Eduardo Tostado

Use Case Name: Create User Account for Database	**Use Case ID:** 0010
Area: TKS Database	
Actor(s): System Administrator	
Description: Add user to be able to access the database through the front-end to edit/view records.	
Triggering Event: TKS Studio request user account to system administrator	
Steps Performed	**Information for Steps**
1. TKS Studio provides information about the account.	UserID, Password, userPrivileges
2. System Administrator logs in the database.	UserID, Password
3. Access the option to add a new user to the system.	
4. Create new user with specified privilege, username, and password.	UserID, Password, userPrivileges
5. System Administrator notifies TKS Studio about successful account creation.	
Precondition: TKS Studio has information to create a new system user.	
Postcondition: System Administrator creates new user with specified information.	
Assumptions: User account creation is handled by the System Administrator.	
Success Guarantee: New user account can access the system and has the specified privileges.	
Minimum Guarantee: New user account can access the system.	
Requirements Met: Allows TKS Studio employee to view/edit information through the system.	
Priority: Medium	
Risk: Low	

Use Case Scenarios Cont.

Author: Eduardo Tostado

Use Case Name: Generate Job Invoice	**Use Case ID:** 0011
Area: Reports and Invoices	
Actor(s): TKS Studio Employee	
Description: User enters the system to generate an invoice regarding a specific job as text file.	
Triggering Event: User requests invoice through the system.	
Steps Performed	**Information for Steps**
1. User enters the database through the log-in page.	Username, password
2. User navigates to the appropriate job.	Job
3. User selects the desired information about the job.	
4. User clicks on the generate invoice button.	
5. System performs a selection query to identify the desired records.	
6. System formats information into a text file.	
7. The resulting text file is downloaded into the user's computer.	
Precondition: System contains the records for the desired information.	
Postcondition: A text file is generated and downloaded into the user's computer.	
Assumptions: User has privileges to access the specified information.	
Success Guarantee: A well-formatted text file is generated and downloaded.	
Minimum Guarantee: Information about the invoice is displayed on-screen.	
Requirements Met: Ability to create an invoice on the same application.	
Priority: High	
Risk: Medium	

Use Case Scenarios Cont.

Author: Eduardo Tostado

Use Case Name: Attachments and Comments for Project	**Use Case ID:** 0012
Area: System Database	
Actor(s): TKS Studios Employee	
Description: User enters comments and/or a file attachment to a project in the system.	
Triggering Event: User inputs data through the system.	
Steps Performed	**Information for Steps**
1. User enters the database through the log-in page.	Username, password
2. User navigates to the appropriate job.	Job
3. User types comments into the "comments" field.	Comments
4. User clicks 'save' to add the record into the database.	
5. Add Query is executed to enter the comments into the database.	
6. User clicks on the "attachments" button in the appropriate job screen.	Attachment
7. A pop-up to select a file appears in the user's screen.	
7. User selects the file and uploads it.	
9. Add/Append Query is executed to add the file to the database.	
10. Successful upload message pops up.	
Precondition: The job for the specified attachments is in the database.	
Postcondition: The comments and/or file is uploaded to the database and linked to the specified project.	
Assumptions: User has privileges to add information into the database. The file is of an appropriate size for the server. The server capacity is not full.	
Success Guarantee: The comments are displayed on the job information page and the file is uploaded and stored in the database.	

Minimum Guarantee: The comments are displayed on the job information and an upload error message is displayed.
Requirements Met: Permit the storage of additional notes and pictures that will be matched to project.
Priority: Medium
Risk: High

Use Case Scenarios Cont.

Author: Aidahta Natama

Use Case Name: Create valid Login details	**Use Case ID:** 0013
Area: TKS Studios' Management System	
Actor(s): CEO/Owner, Management, Analysts	
Description: Allow management login and get an access into the system after login details verification.	
Triggering Event: Management press on login button.	
Steps Performed	**Information for Steps**
1. Login details saved in the database table that contain login credentials.	Username, Password
2. Access into the system is granted after verification of credentials.	Username, Password
3. Management interface informs the user that the Log in details verified successfully and system access granted.	
4. Management interface prompts user to navigate into the system functions after log in verified.	
5. If user clicks no on sign out, he will remain logged into the system.	User active session record
6. If user clicks yes, mark user session status as logged out.	
Precondition: User is logged into management system and is on the user dashboard page.	
Postcondition: User login details are moved from database table containing passive users to database table containing active users.	
Assumptions: User has access to management system and valid user ID and password.	
Success Guarantee: System record active user's credentials and job being performed.	
Minimum Guarantee: System creates active job.	
Requirements Met: Allow user to create valid user name and password.	
Priority: Medium	
Risk: Low	

Use Case Scenarios Cont.

Author: Aidahta Natama

Use Case Name: Search for new report	**Use Case ID:** 0014
Area: TKS Studios' Management System	
Actor(s): CEO/Owner, Management, Analysts, Users.	
Description: Allow analysts to initiate a process.	
Triggering Event: Internal analyst click on process initiation button.	
Steps Performed	**Information for Steps**
1. System analysis process information is saved into database table that contains report tables.	Report ID
2. System analysis removed from the database table containing report data.	Report ID
3. Management interface informs the analyst that the report was successfully made active.	Analysis Name, Report address
4. Management interface prompts the analyst to print analysis report for decision making.	
5. If analyst clicks yes, then print the report information and mark report status as valid report.	Active report record
6. If user clicks no, mark job status as pending.	
Precondition: Analyst is logged into management system and is on the reports Page.	
Postcondition: Report is moved from database table containing report data to database table containing active reports.	
Assumptions: Analyst has access to management system and valid analyst ID and valid password.	
Success Guarantee: System creates active report and prints report information.	
Minimum Guarantee: System creates active reports.	
Requirements Met: Allow analysts to create an Active report from a report date and print a report information.	
Priority: High	

Risk: Medium

Use Case Scenarios Cont.

Author: Aidahta Natama

Use Case Name: Search for active job	**Use Case ID:** 0015
Area: TKS Studios' Management System	
Actor(s): CEO/Owner, Management, Analysts, Users.	
Description: Allow user to search for job from job opportunity page.	
Triggering Event: Inner user click on job available button.	
Steps Performed	**Information for Steps**
1. User application information is saved into database table that contains job opportunity tables.	Report ID
2. User application information removed from the database table containing job opportunity table.	Report ID
3. User interface informs the user that the job application was successfully made active.	Username, Job address
4. User interface prompts the User to print job report and fill in.	
5. If user clicks yes, then print the job application form and mark application as valid successful.	Active job record
6. If user clicks no, mark job application not successful.	
Precondition: User is logged into management system and is on the job application page.	
Postcondition: Job application is moved from database table containing job application data to database table containing active Jobs.	
Assumptions: User has access to management system and valid User ID and valid password.	
Success Guarantee: System creates active jobs and prints job available information.	
Minimum Guarantee: System creates jobs.	
Requirements Met: Allow user to create an Active job from a job available date and print active job information.	
Priority: Medium	

Risk: High

Use Case Scenarios Cont.

Author: Jorge Sanchez

Use Case Name: Marking job complete	**Use Case ID:** 0016
Area: TKS Studios' information system	
Actor(s): CEO/Owner, Management	
Description: Allows user to mark a project completed which will then move it from active job table to archived table.	
Triggering Event: Internal user marks active job as completed.	
Steps Performed	**Information for Steps**
1. Credentialed user enters active job interface.	
2. User selects active job that they will edit.	
3. User marks job completed. Is required to enter password to update information.	User Password
4. System will automatically move job information from active job table to archived job table.	
Precondition: User is logged into management system and is on the user dashboard page.	
Postcondition: Job information is moved from active job table to achieve job table in database.	
Assumptions: User has access to management system and valid user ID and password.	
Success Guarantee: Active job will be moved from active job table to complete.	
Minimum Guarantee: User credentials will be rejected, and job status will remain active.	
Requirements Met: Allow user to edit status of job.	
Priority: Medium	
Risk: Low	

Use Case Scenarios Cont.

Author: Jorge Sanchez

Use Case Name: Delete user access	**Use Case ID:** 0017
Area: TKS Database	
Actor(s): TKS CEO/ System Administrator	
Description: TKS will be able to delete added client's login information or employee login information.	
Triggering Event: Client no longer requires services of TKS Studios. Employee leaves TKS for other opportunities.	
Steps Performed	**Information for Steps**
1. TKS CEO/ Administrator login using valid credentials.	Username and password
2. User navigates to employee or client information on interface.	
3. User selects client or employee who they wish to delete.	
4. User edits client or employee information and click button to delete.	
5. Pop-up windows appears and ask user to verify while also requiring the password.	Password
Precondition: Client/Employee exist in the database	
Postcondition: TKS CEO/Administrator delete user with specified information.	
Assumptions: User accounts is handled by CEO/Administrator	
Success Guarantee: Deleted user can no longer access TKS Studios information system.	
Minimum Guarantee: User could still access system.	
Requirements Met: Allow TKS Studio to view/edit employee or client information through the system.	
Priority: Medium	
Risk: Low	

Use Case Scenarios Cont.

Author: Jorge Sanchez

Use Case Name: Ability to see who made changes to the database	**Use Case ID:** 0018
Area: TKS Studio Database	
Actor(s): TKS Studio CEO and Administrator	
Description: Allows actors listed above to see who made certain changes. Such as deleting an employee or update a projects status.	
Triggering Event: User will select the log information on the interface which keeps tracks of all changes for a period.	
Steps Performed	**Information for Steps**
1. System analysis processes information which is saved in database for logging changes.	
2. System analysis returns information and displays a table	Change log record
3. Table displays what was changed in basic detail and displays the user who changed information.	
4. CEO/ Administrator can click on any log to view additional information such as time and details as to what was changed.	Change log record
Precondition: CEO/ Administrator is logged into management system and is on changed log page.	
Postcondition: Recorded changes that were made to database will display on a table.	
Assumptions: User has access to management system and valid credentials.	
Success Guarantee: System displays a table of logged changes.	
Minimum Guarantee: System displays an empty table.	
Requirements Met: Allows CEO/Administrator to keep track of any changes and ensures reliability.	
Priority: Medium	
Risk: Low	

Use Case Scenarios Cont.

Author: Aleena Khan

Use Case Name: Ability to see who made changes to the database	**Use Case ID:** 0019
Area: Navigate to see who made changes in the database.	
Actor(s): Manager/ CEO	
Description: Changes occurs in database	
Triggering Event: Manager/CEO able to look through who made changes in the database, and what have been made.	
Steps Performed	**Information for Steps**
1. Manager/ CEO checking to see who made changes and when.	Navigate new database changes tab.
2. Manager/ CEO will locate the edit button to see what changes occurs.	Client info
3. Manager/CEO able to find who made changes.	Check date/ name of person made changes
4. Find the data changes are correct.	Data confirmation
Precondition: Manager/ CEO ability to see who made changes in the system.	
Postcondition: Manager/CEO successfully able to navigate the correct information been changed.	
Assumptions: Manager able to find the database information is match with information in spreadsheet.	
Success Guarantee: Manager **c**an enter, update, and edit the information which not been change.	
Minimum Guarantee: Manager **c**an enter new information into the system	
Requirements Met: Allow manager to enter new information into the system	
Priority: High	
Risk: Medium	

Use Case Scenarios Cont.

Author: Aleena Khan

Use Case Name: Edit data from spreadsheets/hardcopy documents to TKS Studios' software	**Use Case ID:** 0020
Area: Data Edit	
Actor(s): Developer	
Description: Edit user permissions	
Triggering Event: Manager able to edit user information with their permission	
Steps Performed	**Information for Steps**
1. TKS will login to the information system	UserID, Password
2. TKS will locate the edit button to edit info.	Client info
3. TKS will update client info.	Save the edited information
4. Edited data successfully uploaded into the system	Data confirmation
Precondition: TKS allows builders to have correct client info	
Postcondition: TKS successfully entered the data into the information system	
Assumptions: TKS has the edited information sheet ready to enter in new database.	
Success Guarantee: TKS can enter, update, and edit the information in the system	
Minimum Guarantee: TKS can enter new information into the system	
Requirements Met: Allow TKS to enter new information into the system	
Priority: High	
Risk: Medium	

Use Case Scenarios Cont.

Author: Aleena Khan

Use Case Name: Database Security	**Use Case ID:** 0019
Area: Navigate to see the security of client information in the database.	
Actor(s): Manager/ CEO	
Description: Client information is safe and secure	
Triggering Event: Manager/CEO able to strict or modify the security of database where client information is saved.	
Steps Performed	**Information for Steps**
1. Manager/ CEO consult with IT department to maintain security of the new database.	Navigate new database security.
2. Manager/ CEO can able to set up password to navigate security tabs.	Password/Username
3. Manager/CEO can able to make changes in the security.	Changes in Security
Precondition: Manager/ CEO ability to see who made changes in security system.	
Postcondition: Manager/CEO successfully able to strict security for any purposes.	
Assumptions: Manager can also set up security question to navigate the database security tabs.	
Success Guarantee: Manager **c**an secure client information properly.	
Minimum Guarantee: Manager can update new security password or challenge question to reset password.	
Requirements Met: Allow manager to enter new updates in security system	
Priority: High	
Risk: High	

Use Case Scenarios Cont.

Author: Ayoub Fares

Use Case Name: Determine where the server will be housed	**Use Case ID:** 0020
Area: TKS Studios Database	
Actor(s): TKS Studios CEO / Owner & System Administrator	
Description: TKS Studios Administrators undergo the process of determining where the server will now be hosted.	
Triggering Event: TKS Studios CEO / System Administrator decides to migrate the server to a new location.	
Steps Performed	**Information for Steps**
1. TKS Studios CEO / System Administrator determines the optimal features for a new server location / service.	Shortfalls of current servers
2. TKS Studios CEO / System Administrator searches for optimal server locations based on optimal features.	Server prices, locations, performance, conditions, and other features
3. A list of possible dedicated server hosting services are given to a group of consultants for review.	Selected servers for consideration
4. Reviews are compiled and a choice is made concerning the new server location.	
5. The selected hosting service contacted to initiate the process of server migration.	Server hosting service contact information
Precondition: A choice has been made to end server rental with the current dedicated server hosting company.	
Postcondition: The chosen company is contacted and the first steps of changing servers begins.	
Assumptions: The new server performs in a superior manner.	
Success Guarantee: A new service is selected and the server hosting company has been contacted.	
Minimum Guarantee: A new service is selected.	
Requirements Met: TKS Studios can begin the process of server migration.	
Priority: High	
Risk: Selecting a server host that is not up to par with standards as they claimed.	

Use Case Scenarios Cont.

Author: Ayoub Fares

Use Case Name: Database Migration	**Use Case ID:** 0021
Area: TKS Studios Database	
Actor(s): TSK Studios CEO / Owner & System Administrator	
Description: TKS Studios Administrators migrate their server to a new location or provider	
Triggering Event: TKS Studios CEO / System Administrator decides where to migrate the database.	
Steps Performed	**Information for Steps**
1. A service option is selected and necessary fees paid.	Necessary functions of the new server
2. The new server environments are tested with test data.	Proper testing procedure of a new database
3. Live data is passed to both the new and old servers.	Access to live data
4. Data Consistency is tested during the migration.	Data consistency evaluation
5. Compatibility testing with the application handling live data.	
6. Review of migration process to ensure an absence of mistakes.	Cross reference of old database
7. Review of server performance to verify efficiency.	Server benchmarks
8. Termination of pervious server services.	
Precondition: The new location of the server has been chosen.	
Postcondition: The database has been migrated and is fully operational within a higher standard.	
Assumptions: The old server hosting service has been terminated.	
Success Guarantee: The new server performance is superior to the previous.	
Minimum Guarantee: The new server performance is slightly superior to the previous.	
Requirements Met: All the functions of the new server are beneficial to wellbeing of the company.	
Priority: High	

Risk: The Database has issues during the migration process and takes more time and money than intended to resolve.

Use Case Scenarios Cont.

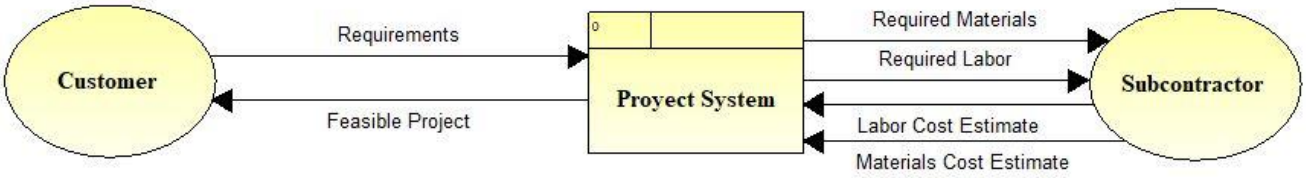
Author: Ayoub Fares

Use Case Name: Analysis of database tables	**Use Case ID:** 0022
Area: TKS Studios' Management System	
Actor(s): TSK Studios System Administrator	
Description: TKS Studios Administrators can navigate through database tables to analyze and utilize useful data	
Triggering Event: TKS Studios System Administrator requires access to the database tables	
Steps Performed	**Information for Steps**
1. System Administrator has a need to access the database.	
2. System Administrator logs in with required information.	Login information
3. System Administrator locates correct menus to access database.	
4. Appropriate query is executed to gather or analyze data.	Data required for analysis, organization of the database
5. Relevant data is formatted into a report with a log of the purpose of accessing said data.	Template need for representing the data
6. The report is downloaded and the connection to the server is terminated.	
Precondition: A type of data or group of data is identified for analysis.	
Postcondition: The data in question is found and appropriate actions are taken.	
Assumptions: There is some importance to the data being analyzed.	
Success Guarantee: The required data is located.	
Minimum Guarantee: N/A	
Requirements Met: All of the required data is located.	
Priority: High	
Risk: Compromising customer data.	

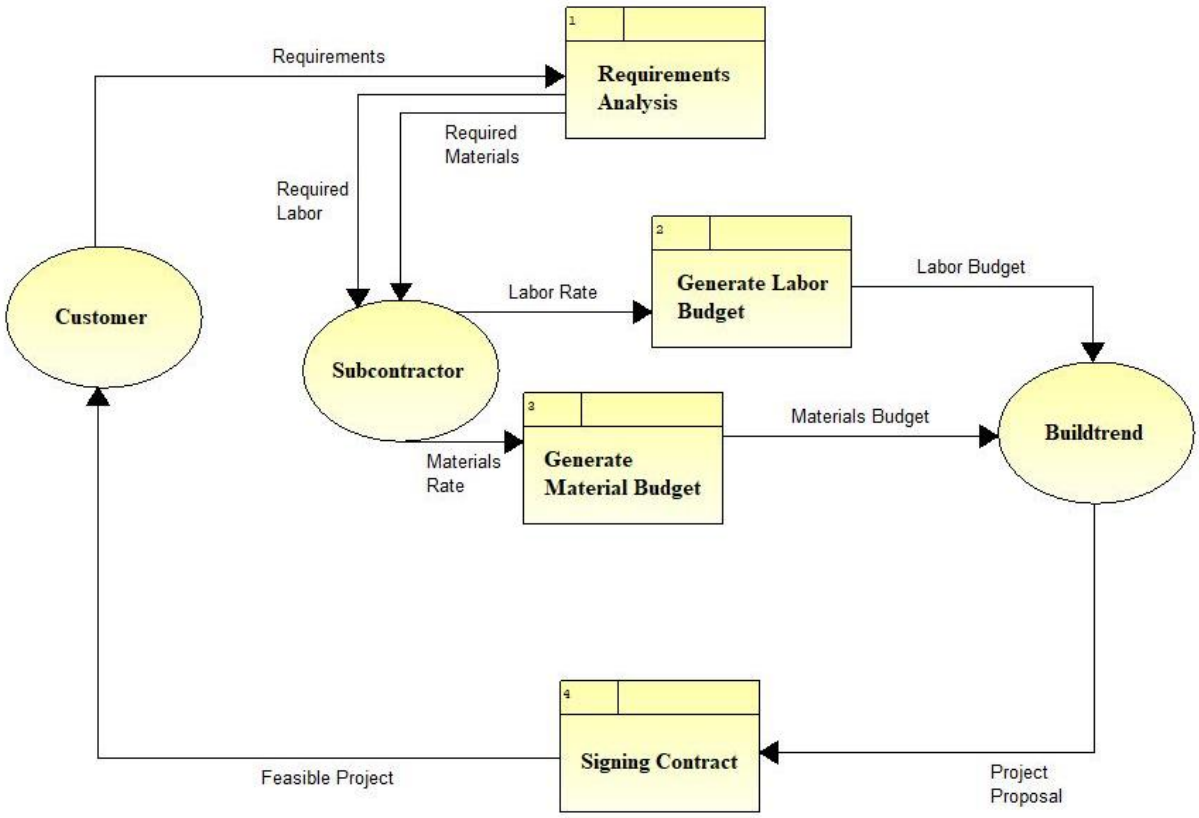
Required System Event Response Table

Event	Source	Trigger	Activity	Response	Destination
Client registers for account	Client	Customer Registration	Client creates an account on TKS Studios website before proposing a job	Valid client information is added to the system and the client is given an account	Client
Client submits project proposal	Client	Daily project checkup	TKS Studios will check up on all project leads	TKS Studios will go ahead and assess the project lead and contact the client for more information.	Client
TKS Studios will meet up with client and assess project site	TKS Studios/ Client	Project lead follow	TKS Studios will go to the project site and discuss with the customer	TKS Studios will send an estimate to the client for work that will be done	Client
TKS Studios begins the project	TKS Studios	Client accepts the estimate	TKS Studios contracts all labor	Contractor labor will begin to work on project	Contractor
Client request additional labor not on the estimate	Client	Client requests additional labor from TKS Studios	TKS Studios will edit the estimate and hire additional contractors	Contractors are sent additional information for added labor	Contractor
TKS Studios plans require architectural review	TKS Studios	Engineer checkup	Engineer will verify structural integrity of the blueprint	Engineer will send a stamped approval of the blueprint	TKS Studios
TKS Studios will generate customer invoice	TKS Studios	Job completion	System generates a client invoice that outlines charges	Client pays for goods and services rendered as outlined by the invoice	Client
Project completion	TKS Studios	Report is delivered to client	Bill the client	Client approves of the work	Client

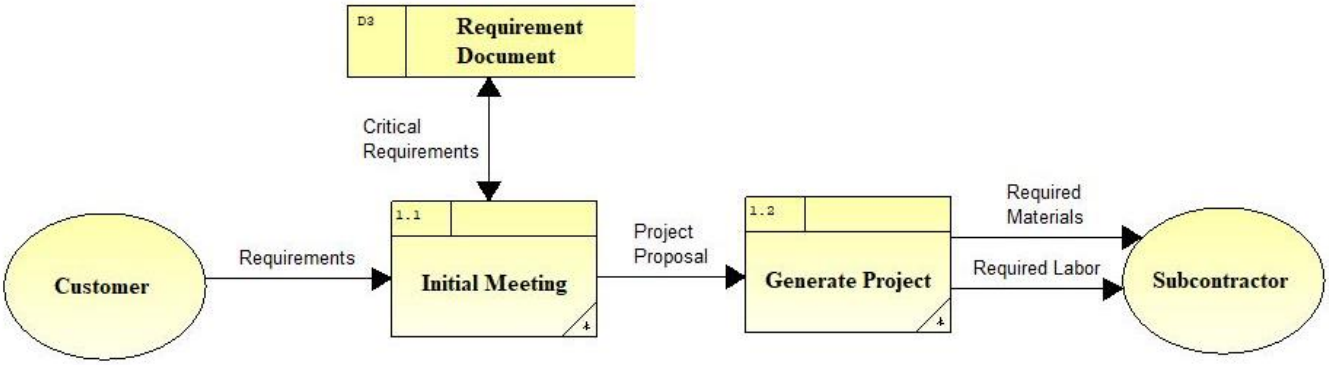
Required System Data Flow Diagram (Context Level)



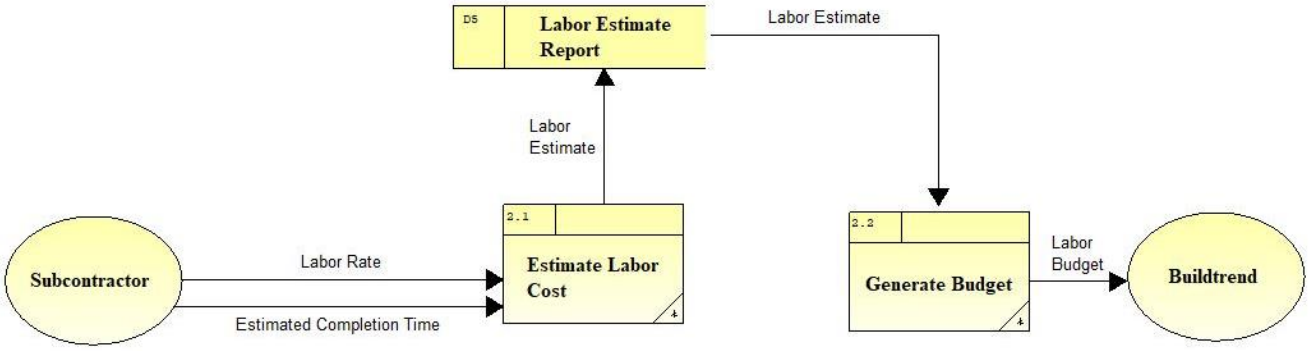
Required System Data Flow Diagram (Level 1)



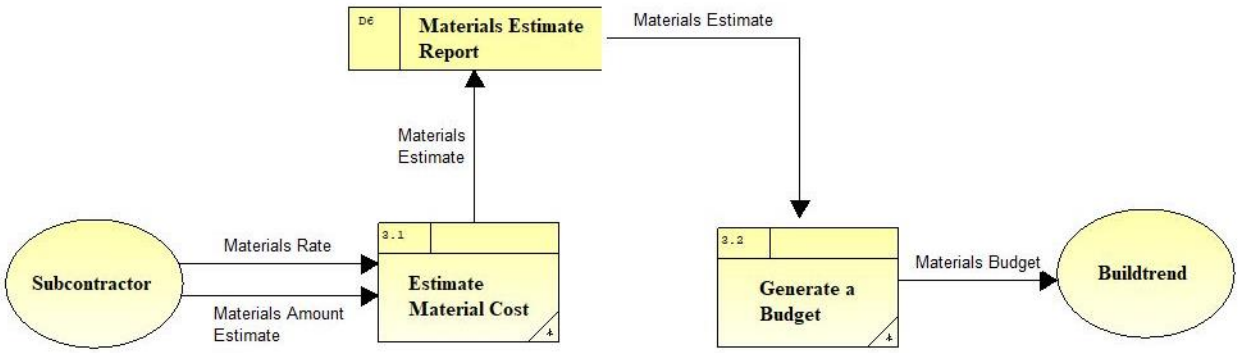
Required System Data Flow Diagram (Level 2)



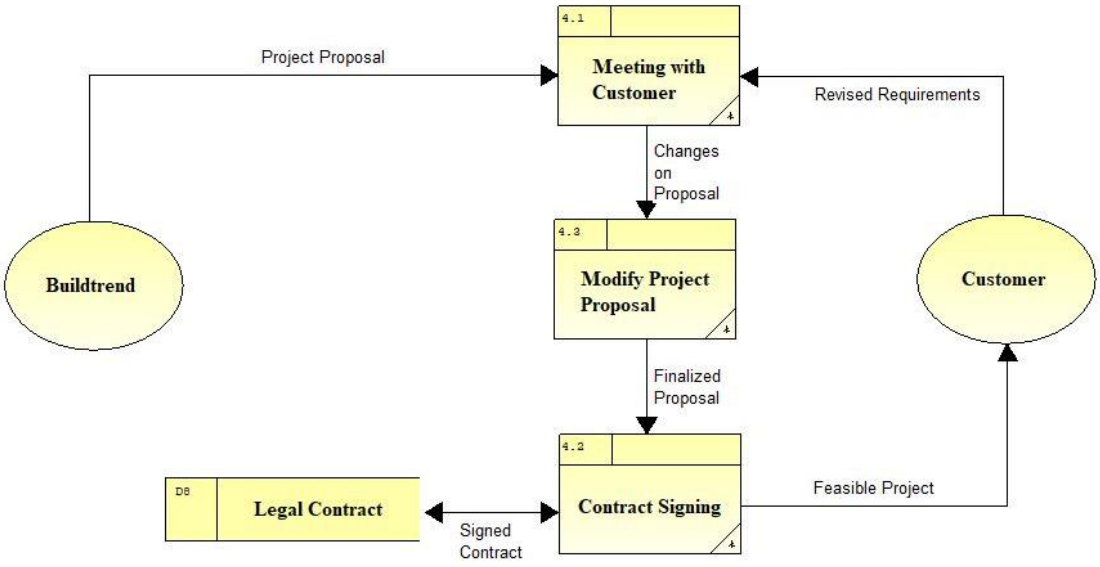
Required System Data Flow Diagram (2.1 Exploded)



Required System Data Flow Diagram (2.3 Exploded)



Required System Data Flow Diagram (2.4 Exploded)



Required System Data Dictionary

Field Name	Table	Data Type	Data Format	Length	Description	Required	Key Type
Customer_ID	Customer	Char	XXXXX	10	ID used to identify the customer.	Yes	Primary
Customer_Address	Customer	Char		100	The address of the customer.	No	
Customer_Fname	Customer	Char		30	First name of the customer.	No	
Customer_Lname	Customer	Char		30	Last name of the customer.	No	
Customer_Email	Customer	Char		40	Customer's Email.	No	
Customer_Phone	Customer	Char	XXX-XXX-XXXX	10	Customer's cell phone number.	No	
Customer_Phone	Customer	Char	XXX-XXX-XXXX	10	Customer's work phone number.	No	
Customer_Location	Customer	Char		100	Address of job site	No	
Employee_ID	Contractor_Employee	Char	XXXXX	10	ID used to identify the contractor's specific employees.	Yes	Primary
Company_ID	Contractor_Employee	Char	XXXXX	10	ID used to identify the contractor organization.	Yes	Foreign
Employee_Fname	Contractor_Employee	Char		30	The first name of the employee.	Yes	
Employee_Lname	Contractor_Employee	Char		30	The last name of the employee.	Yes	
Header_CompetencyRole	Contractor_Employee	Char		20	The role of the employee in the organization.	Yes	
Employee_Email	Contractor_Employee	Char		40	The employee's email.	No	
Employee_Phone	Contractor_Employee	Char	XXX-XXX-XXXX	10	The employee's phone number.	No	
Competency_ID	Employee_Competency	Char	XXXXX	10	ID used to identify the specific competency being rated.	Yes	Primary
Contractor_ID	Employee_Competency	Char	XXXXX	10	ID used to identify the client's specific employees.	Yes	Foreign
Header_CompetencyRole	Employee_Competency	Char		20	Employee's role in the company or job title.	Yes	
Header_CompetencyGroup	Employee_Competency	Char		20	Classification of competency being considered.	Yes	
Header_Competency	Employee_Competency	Char		20	Name of exact competency being considered.	Yes	
CompetencyDescription	Employee_Competency	Char		100	Decription of the specific competency being considered.	Yes	
Is_Required	Employee_Competency	Char	X	1	Whether or not the skill is required for the employee's role	Yes	
Date	Summary Report	Date	XX/XX/XXXX	8	Date that the report was generated for the client.	Yes	Primary
Company_ID	Summary Report	Char	XXXXX	10	ID used to identify the contractor organization.	Yes	Primary & Foreign
Competency_ID	Summary Report	Char	XXXXX	10	ID used to identify the specific competency being rated.	Yes	Foreign

Required System Data Dictionary (cont.)

TKS Employee ID	TKS_Employee	Char	XXXXX	10	ID used to identify the TKS employee.	Yes	Primary
TKS_Employee_Fname	TKS_Employee	Char		30	TKS employee first name.	Yes	
TKS_Employee_Lname	TKS_Employee	Char		30	TKS employee last name.	Yes	
TKS_Employee_Email	TKS_Employee	Char		40	TKS employee email address.	Yes	
TKS_Employee_Cell_Phone	TKS_Employee	Char	XXX-XXX-XXXX	10	TKS employee cell phone number.	Yes	
TKS_Employee_Work_Phone	TKS_Employee	Char	XXX-XXX-XXXX	10	TKS employee work phone number.	Yes	
TKS_Employee_Address	TKS_Employee	Char		100	TKS employee home address.	Yes	
TKS_Employee_DOB	TKS_Employee	Char	XX/XX/XXXX	10	TKS employee date of birth.	Yes	
Contractor_ID	Contractor	Char	XXXXX	10	ID used to identify the contactor	Yes	Primary
Contractor_Fname	Contractor	Char		30	Contractor's first name.	Yes	
Contractor_Lname	Contractor	Char		30	Contractor's last name.	Yes	
Contractor_Email	Contractor	Char		40	Constractor's email address.	Yes	
Contractor's_Cell_Phone	Contractor	Char	XXX-XXX-XXXX	10	Constractor's cell phone number.	Yes	
Constractor's_Work_Phone	Contractor	Char	XXX-XXX-XXXX	10	Contractor's cell phone number.	No	
Contractor's_Address	Contractor	Char		100	Contractor's physical ddress.	No	
Contractor's_DOB	Contractor	Date	XX/XX/XXXX	10	DOB used to dobentify the contractor	No	
Report_ID	Report	Char	XXXXX	10	ID used to identify the report.	Yes	Primary
Report_Description	Report	Char		100	Description used to describe the report.	Yes	
Customer_ID	Report	Char	XXXXX	10	ID used to identify the customer.	Yes	Foreign
Contractor_ID	Report	Char	XXXXX	10	ID used to identify the contractor.	Yes	Foreign
TKS_Employee_ID	Report	Char	XXXXX	10	ID used to identify the TKS employee.	Yes	Foreign
Invoice_ID	Report	Char	XXXXX	10	ID used to identify the invoice.	Yes	Foreign
Invoice_Dollars	Report	Int		10	The amount in dollars of the invoice.	Yes	
Invoice_ID	Invoice	Char	XXXXX	10	ID used to identify the invoice.	Yes	Primary
Invoice_Dollars	Invoice	Decimal	XXX.XX	10	The amount in dollars of the invoice.	Yes	
Invoice_Labor_Hours	Invoice	Int		10	The amount in hours of labor.	Yes	
TKS_Employee_ID	Invoice	Char	XXXXX	10	ID used to identify the TKS employee.	Yes	Foreign
Customer_ID	Invoice	Char	XXXXX	10	ID used to identify the customer.	Yes	Foreign
Ticket_ID	ZenDesk	Char	XXXXX	10	ID used to identify the ticket.	Yes	Primary
Customer_ID	ZenDesk	Char	XXXXX	10	ID used to identify the customer.	Yes	Foreign
Ticket_Description	ZenDesk	Char		100	Description of what the ticket consists of.	No	
Open_Close	ZenDesk	Char	X	1	Is the ticket open or closed?	Yes	
Priority	ZenDesk	Char	X	1	Is the ticket of a priority?	Yes	
Date	ZenDesk	Date	XX/XX/XXXX	10	Date the ticket was opened/closed.	Yes	
Time	ZenDesk	Char	XX:XX:XX	8	Time ticket was opened/closed.	Yes	
Customer_Email	ZenDesk	Char		40	Client's email address.	Yes	
Customer_Phone	ZenDesk	Char	XXX-XXX-XXXX	10	Client's cell phone number.	Yes	
Material_ID	Material	Char		40	ID for material.	Yes	Primary
Material_Name	Material	Char		40	Name for material.	Yes	
Material_Cost	Material	Decimal	XXX.XX	20	Cost for material.	Yes	
Material_Price	Material	Decimal	XXX.XX	20	Price for material	Yes	

Required System Data Dictionary (cont.)

Job_Proposal_ID	ZenDesk	Char		40	ID used for jobs.	Yes	Primary
Job_Name	Customer	Char		40	Name for job, could be Customer name or Address	Yes	
Job_Address	Customer	Char		40	Address for the job.	Yes	
Job_Estimate	ZenDesk	Char		40	Estimate for the job.	Yes	
Job_Contract_ID	ZenDesk	Char		40	ID for contract for the job.	Yes	Primary
TKS_Employee	Employee	Char		40	Employee assigned to the job.	Yes	
Material_Name	Material	Char		40	Material for specified job.	Yes	
Material_Price	Material	Decimal	XXX.XX	40	Price for material.	Yes	
Work Order_ID	ZenDesk	Char		40	ID for work order for contractor.	Yes	Primary
TKS_Employee	Employee	Char		40	Employee for the workorder.	Yes	
Contractor_ID	Contractor	Char		40	Contractor to receive work order.	Yes	

Required System Feasibility Analysis

Required Technical Feasibility

TKS Studios is a home remodel and Construction Company that often uses complex software's to make designs and record data. So our technical feasibility is positive with TKS studios, who possess the required hardware and knowledge to support the proposed system. This claim is based on that our client's current system, Buildertrend, has similar requirements: a personal computer or smartphone and an internet connection. The current system accomplishes the client's tasks well; however, our client expressed a desire for reduced costs and improved functionality. Given these objectives, our team is planning to implement a system that will function similar to Buildertrend at a fraction of the cost.

Required Economic Feasibility

The proposed system has the potential to reduce monthly expenditures by approximately 90%. Currently, Buildertrend costs our client $90 per month, or $1080 annually. The proposed system, however, may cost closer to $8 per month. Additionally, our client informed us that he tends to wait until he arrives back at the office to input information gathered in the field. We believe that this habit could be a costly misappropriation of time that we can curb by implementing an improved interface in the proposed system. The estimated costs for developing the new system are as follows:

- **Develop database with friendly user interface:** The current estimation of cost for our team's labor is approximately 130 hours to develop the database, application program and user interface for our client. At a rate of $40/hr and 130 hours the initial labor costs comes to $5,200. Once our student free-labor discount is applied, labor costs will be reduced to $0.
- **Hosting database and web server online:** The cost for housing the system online will vary depending on the service provider; however, our research yielded an average of $8 per month which totals $96 annually.
- **Total:** Labor ($5,200) + monthly fees ($96) = $5,296 first year
- **Total after discount:** Only the monthly server fees, which are $96 for the first year or $8 per month.

Required System Feasibility Analysis (cont.)

Given the proposed system's similarities to the current system, training costs should be minimal. Since TKS Studios has decide to use the proposed cloud-based approach, there will be no additional hardware requirements and no additional hardware expenditures.

Required Operational Feasibility

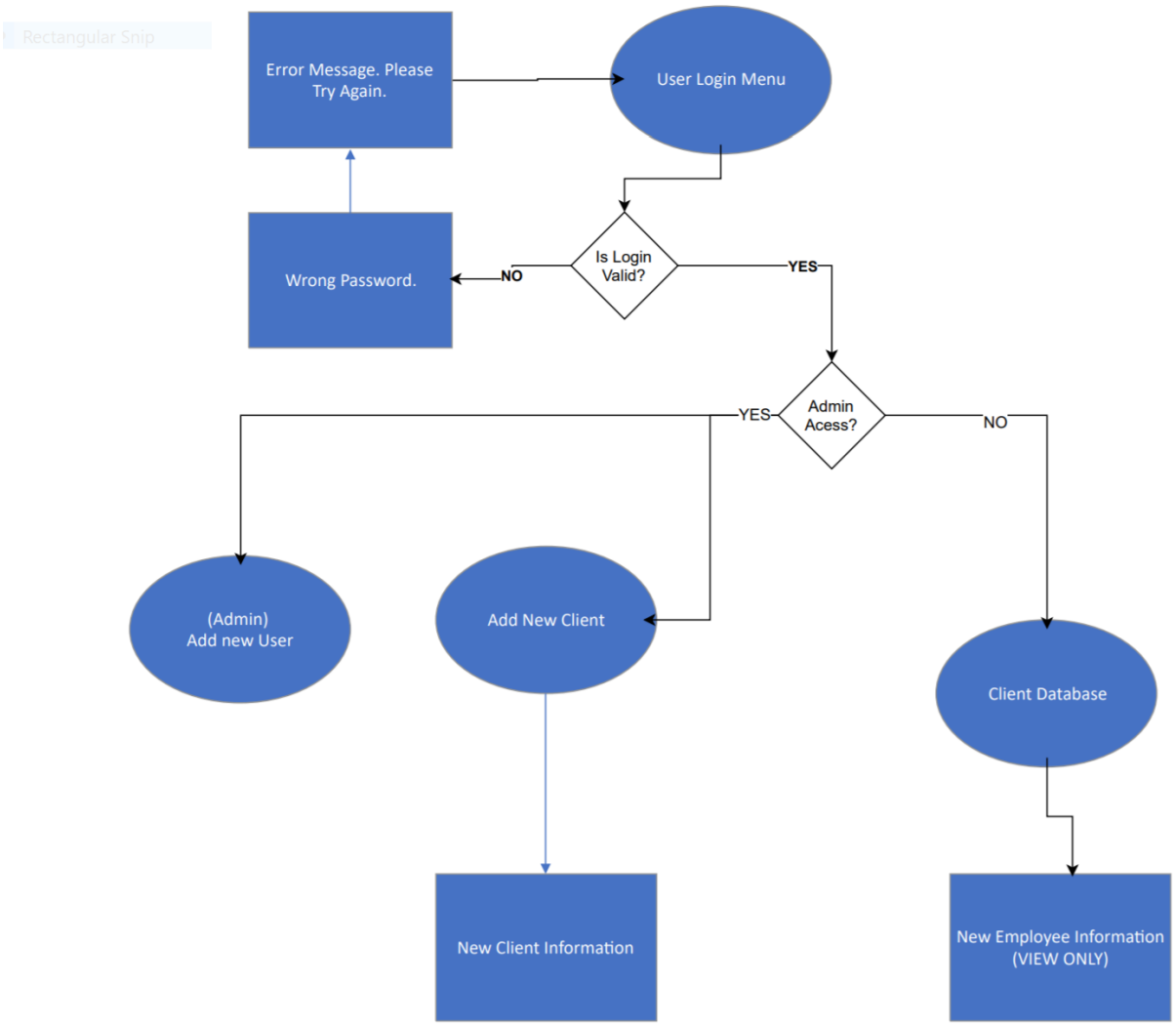
We concluded that the operational feasibility for this project is very high. The CEO and contractors that work for TKS Studios expressed a desire to move to a new, more accessible system. We believe that the proposed system will be familiar enough to make the transition easy while also being different enough to improve efficiency and functionality.

Required Schedule Feasibility

In terms of our required schedule feasibility for this project, CoogTech estimates that we can finish the system analysis phase by mid-May 2019. Following this deadline, it should be possible to complete the database implementation by November 2019. The final development and design of the proposed system will begin in January 2020. Based on our estimates, the development of the new information system will take 130 hours.

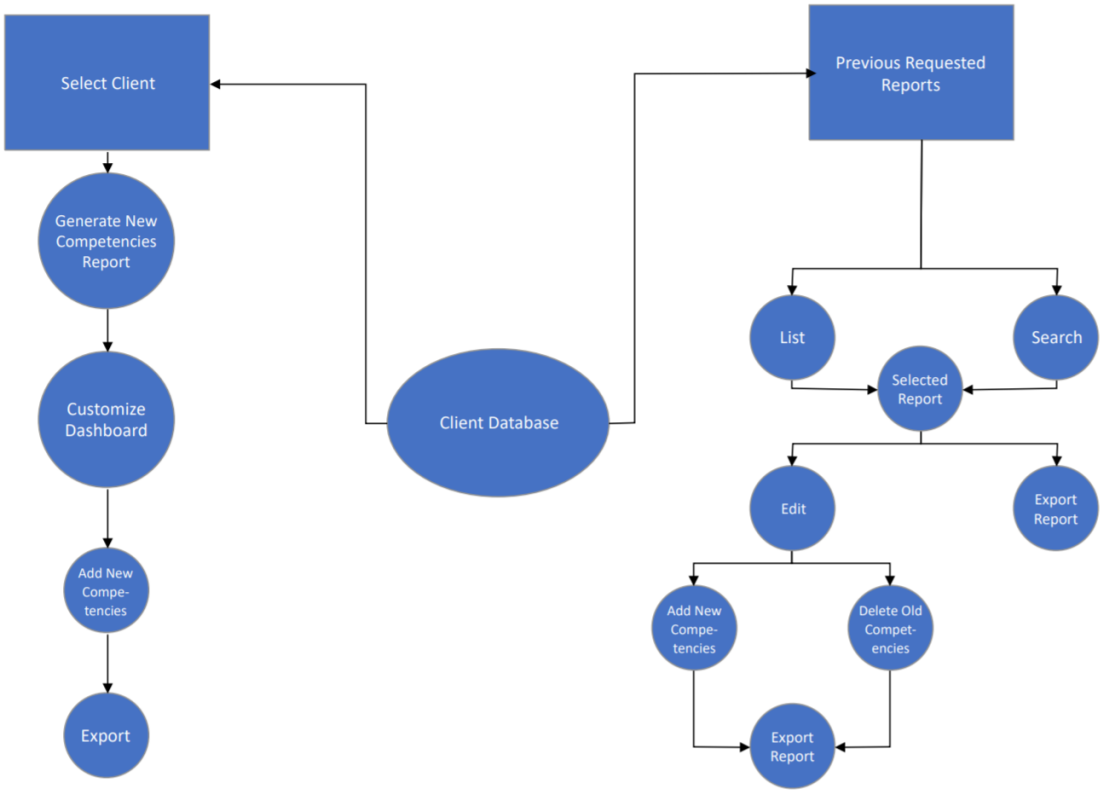
Application Architecture Diagram

4/14/2019 52. Application Architecture Diagram



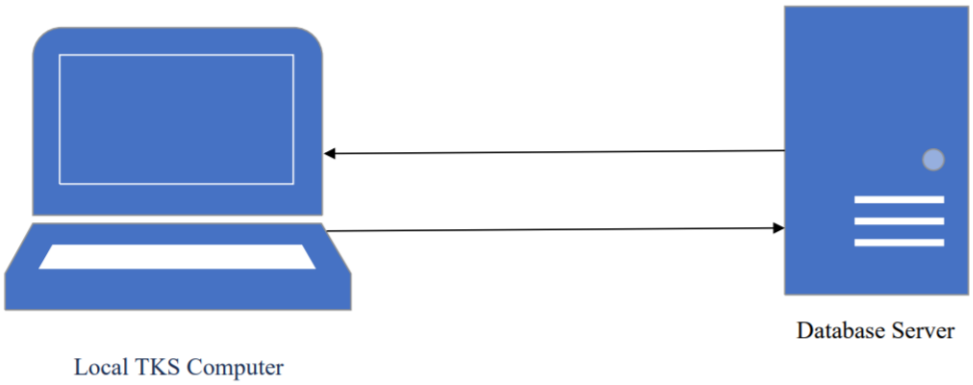
Application Architecture Diagram (Cont.)

4/14/2019 52. Application Architecture Diagram



Application Architecture Diagram (Cont.)

4/14/2019 52. Application Architecture Diagram



Data Acquisition & Data Conversion Strategy

Current System

Mr. Sanchez at *TKS Studios* currently uses a mixture of hard copy documents and digitally stored documents. He also utilizes QuickBooks to create invoices and combines them with other premade forms in Buildertrend to be presented to customers and stored with other records and documents. The current information system has an increased risk for human error and data loss and is limited by an outside source and their management of their software. With the use of our product, TKS will be able to computerize their data and fully rely on the system to create, read, update, and delete information.

Data Conversion Strategy

With the new proposed system, our client can efficiently acquire data for their use in a more efficient manner. The information currently stored in Buildertrend will be exported and transferred to the SQL database system. After this process, acquiring information for use by TKS will be more streamlined. To get familiar with the new system, there will be required training for its users. Once the system can be effectively implemented, work orders, jobs, employee information, and material information can be directly uploaded to the SQL database. This will not only computerize the current system, but it will reduce the margin of error and loss of information. Ultimately, the new system will provide an easier way for TKS to advance in their daily operations. The amount of time saved with the implementation of this database system will allow TKS to utilize their resources more efficiently in their day to day operations.

Initial Draft of Testing Plan for Application & Database Creation

Purpose:

Testing the proposed system allows our team to find problems before they can become deeply embedded in the system. As software is developed, it becomes increasingly difficult for the developers to look at their work objectively. The testing phase, however, forces developers and designers to take a step back and see the system for what it is. While our team is constantly conscious of TKS Studios' feedback, during the testing phase feedback becomes yet more important. During this phase, our team will be able to consider how feedback relates to the entire system, rather than individual pieces. Consequently, the testing phase is about making improvements to the system and ensuring that it meets all requirements. Our testing objectives are detailed below.

Objectives:

While testing the database and interfaces, we hope to accomplish the following objectives:

- Technical Objectives
    - Ensure the database is structured efficiently.
    - Ensure compatibility between our interface and database.
- User-Oriented Objectives
    - Ensure all tables have required information.
    - Ensure query times are acceptable.
    - Ensure we can import/export data to and from the database.
    - Ensure we made the interface as simple and easy to use as possible.

Technical Test Design:

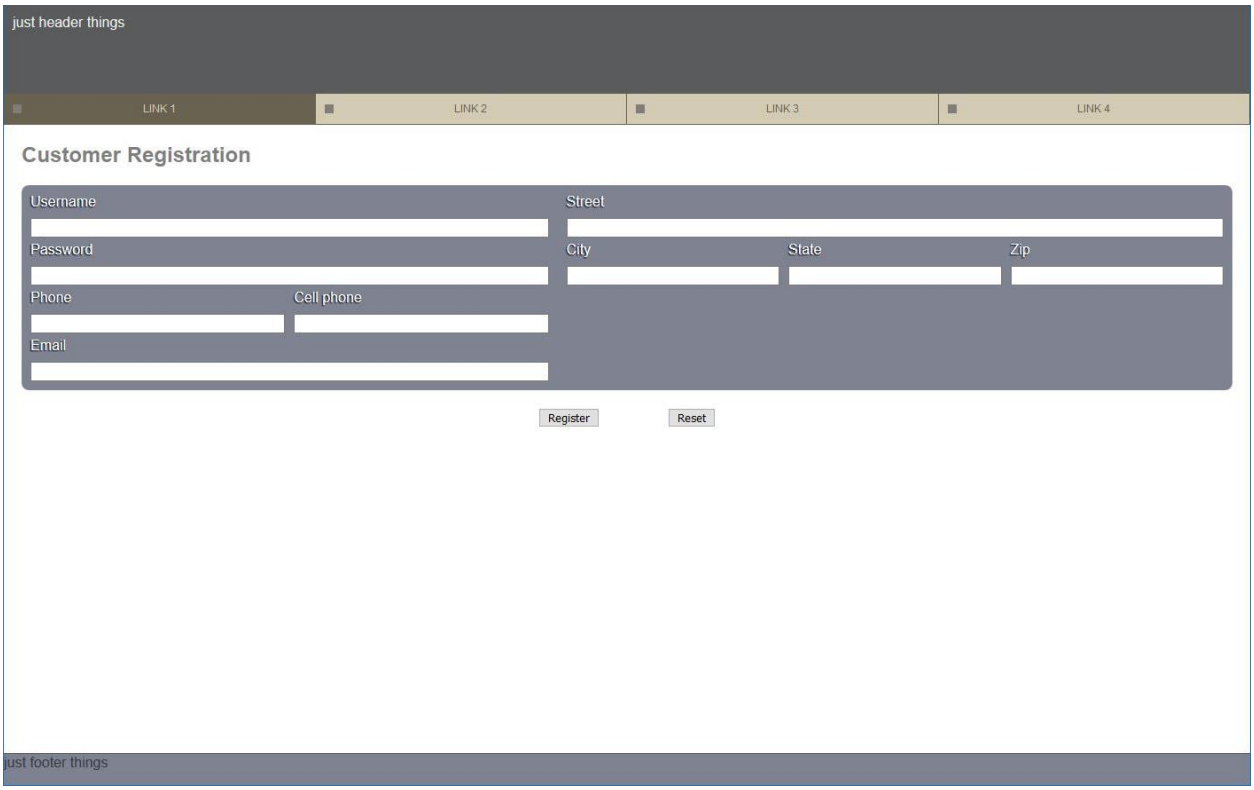
Poorly designed tests yield information that is misleading at best; therefore, our team takes the design of our test very seriously. The objectives of our tests can be split into two major categories: technical and user-oriented. Technical objectives are aimed towards ensuring the system operates at least as well as the design requires. To test this aspect of the system, we plan to create 500,000 randomly generated records in each table in the database. Adding these records

will exert a realistic amount of stress on the database. Consequently, the simulated stress test will examine how the database will behave when it is heavily utilized. Another technical objective is ensuring that interdependent pieces of the system interact properly. In addition to technical tests, we will perform user-oriented tests that focus on how well the system meets user requirements.

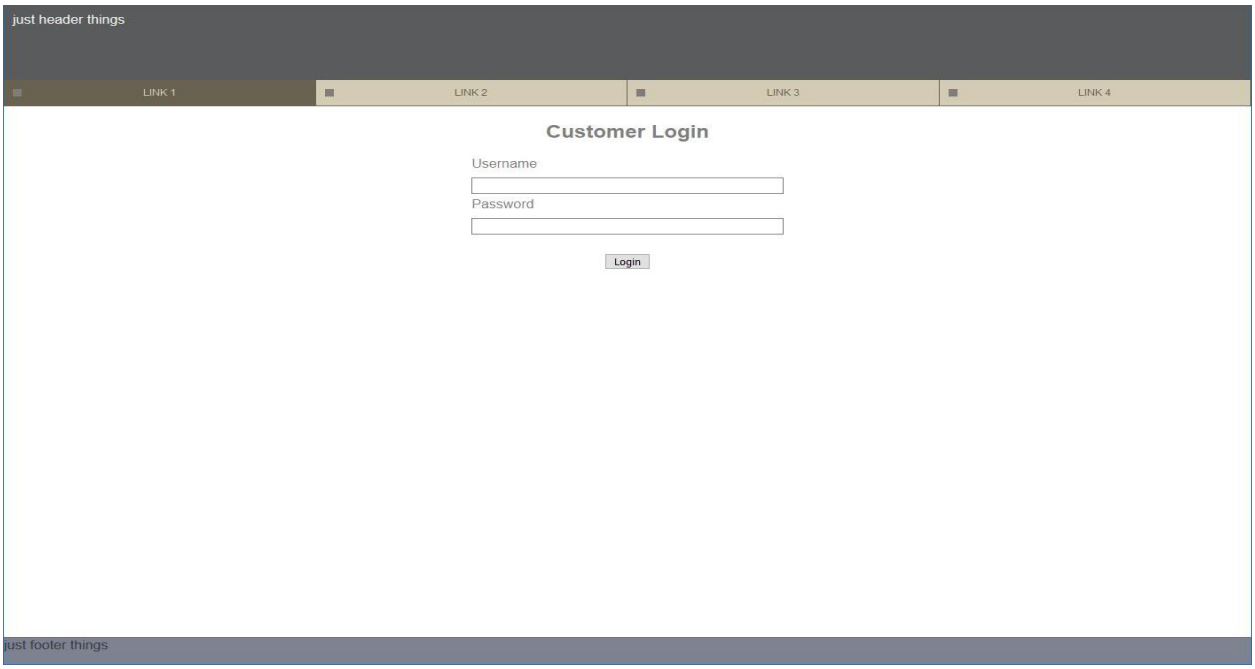
User-Oriented Test Design:

User-oriented tests elicit feedback derived from use of the system. While our goal is to design a system that meets user requirements before we reach the testing phase, certain aspects might be overlooked. To test how well the system fits the user, we will ask TKS Studios' employees to attempt their daily tasks on the new system. Initially, these tests will be done using test data; however, as testing progresses, we will begin to incorporate live data as well. During these tests we will observe how the system and its users interact with both valid and invalid data. Excess friction observed during system usage is an indication that our team should revise certain aspects of the proposed system.

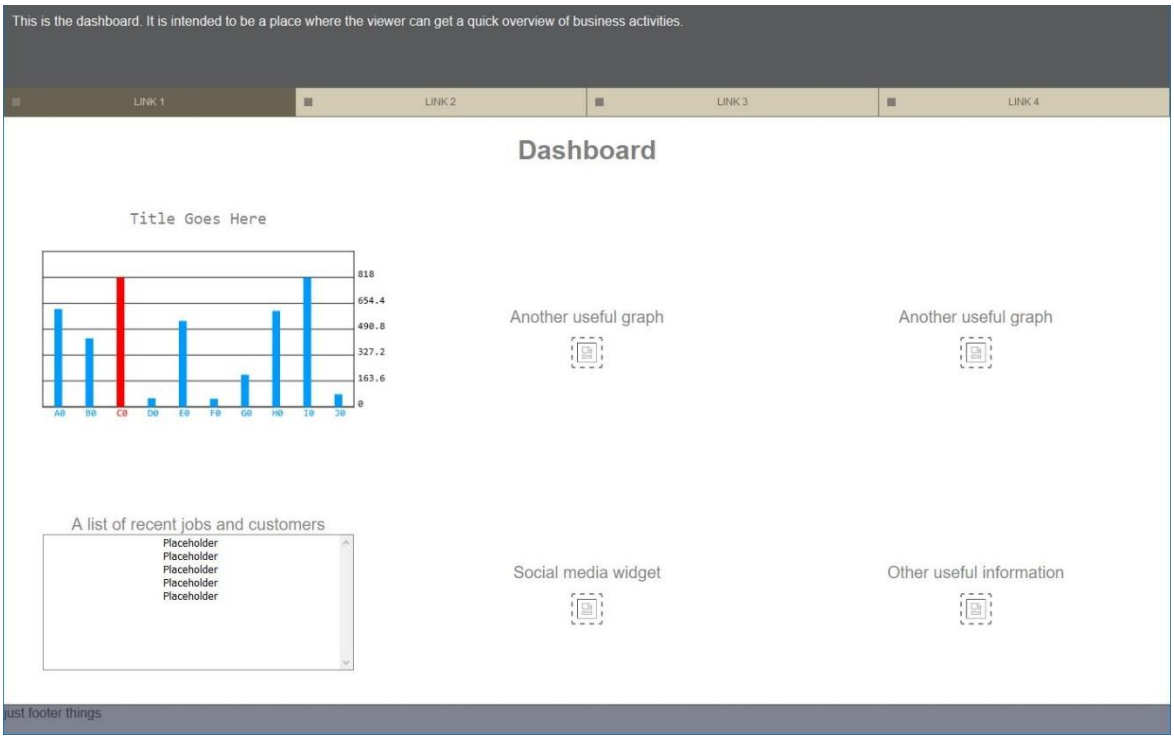
Application Prototype



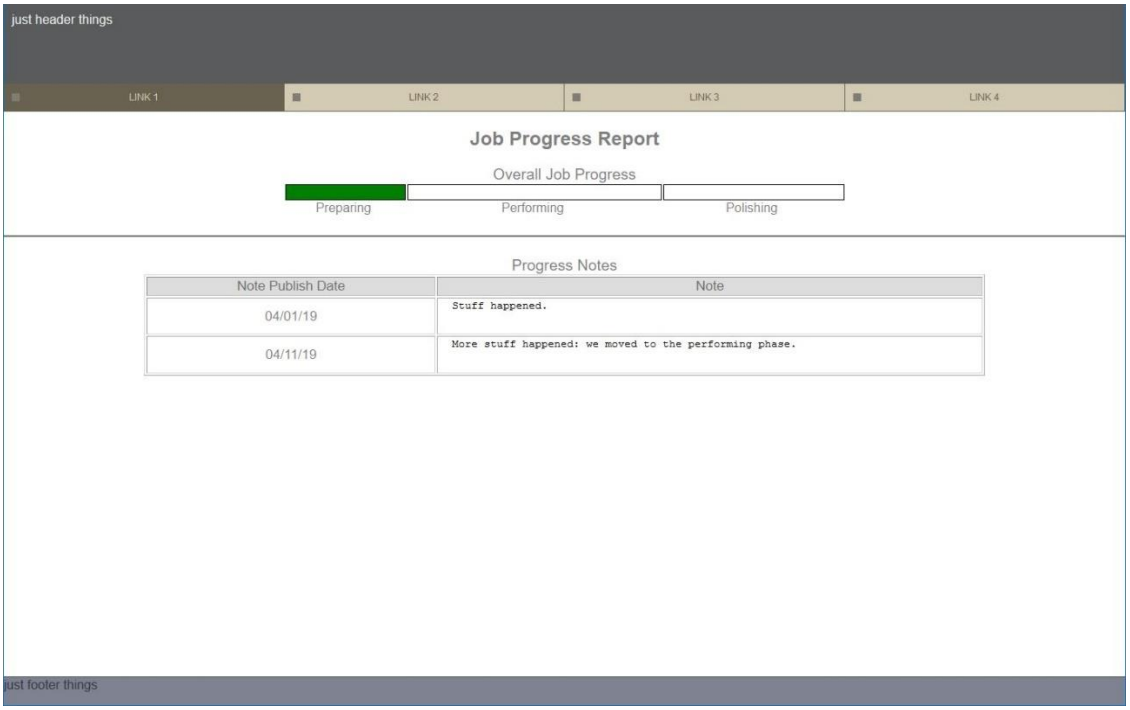
Above is the registration page where customers enter their information to create a profile.



Application Prototype (Cont.)

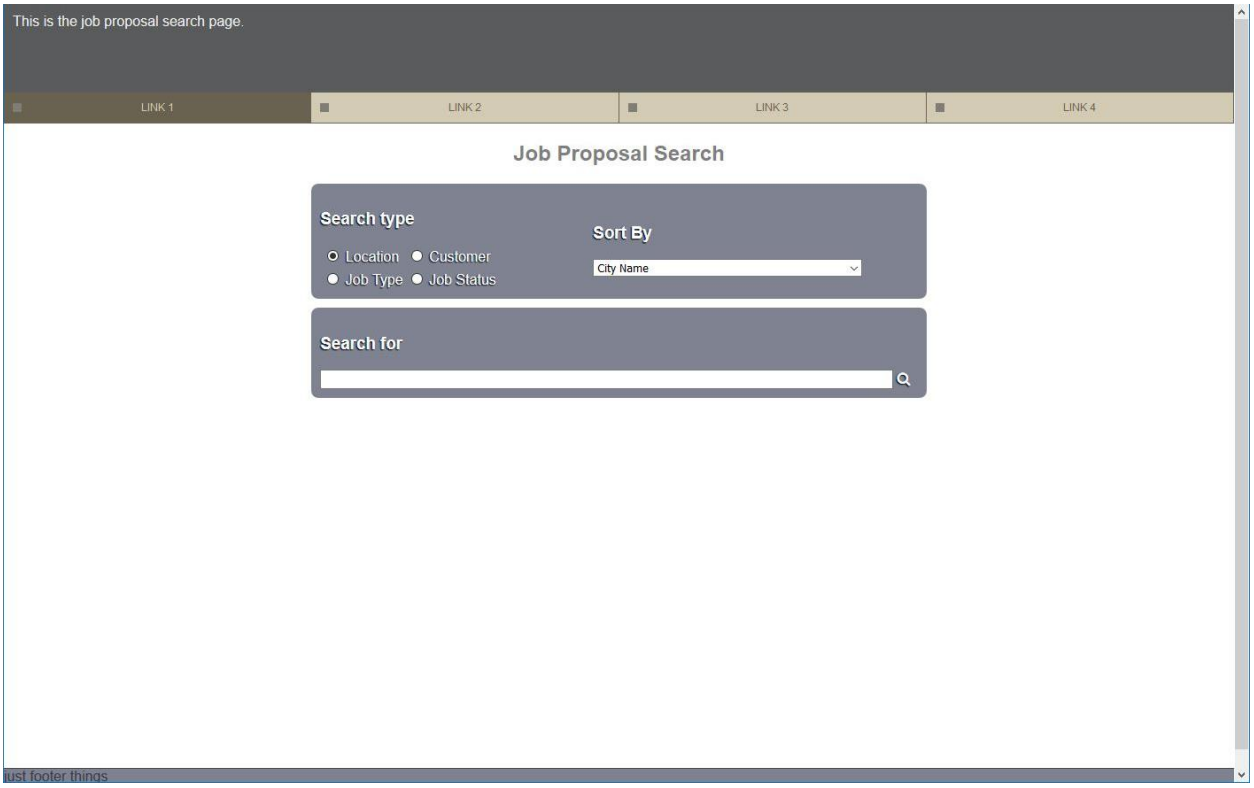


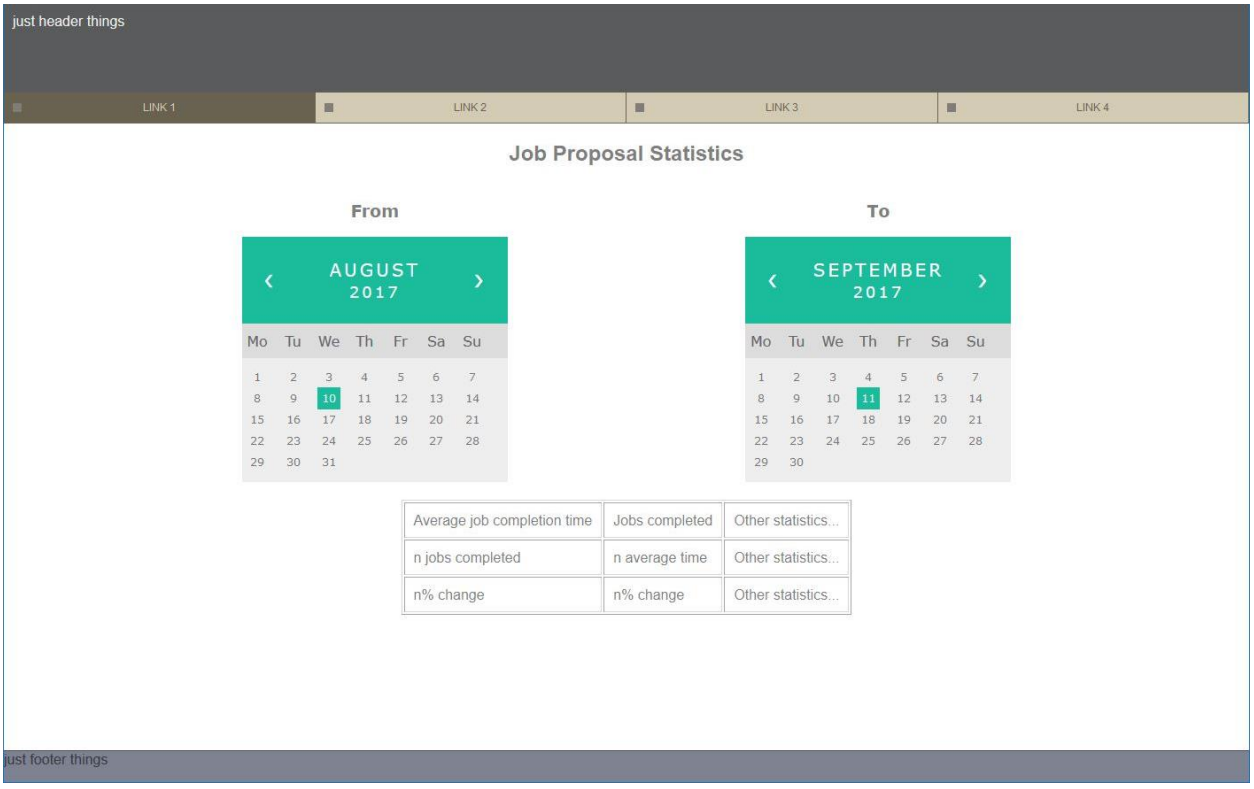
This is where the user can get a quick overview of business activities.



Application Prototype (Cont.)

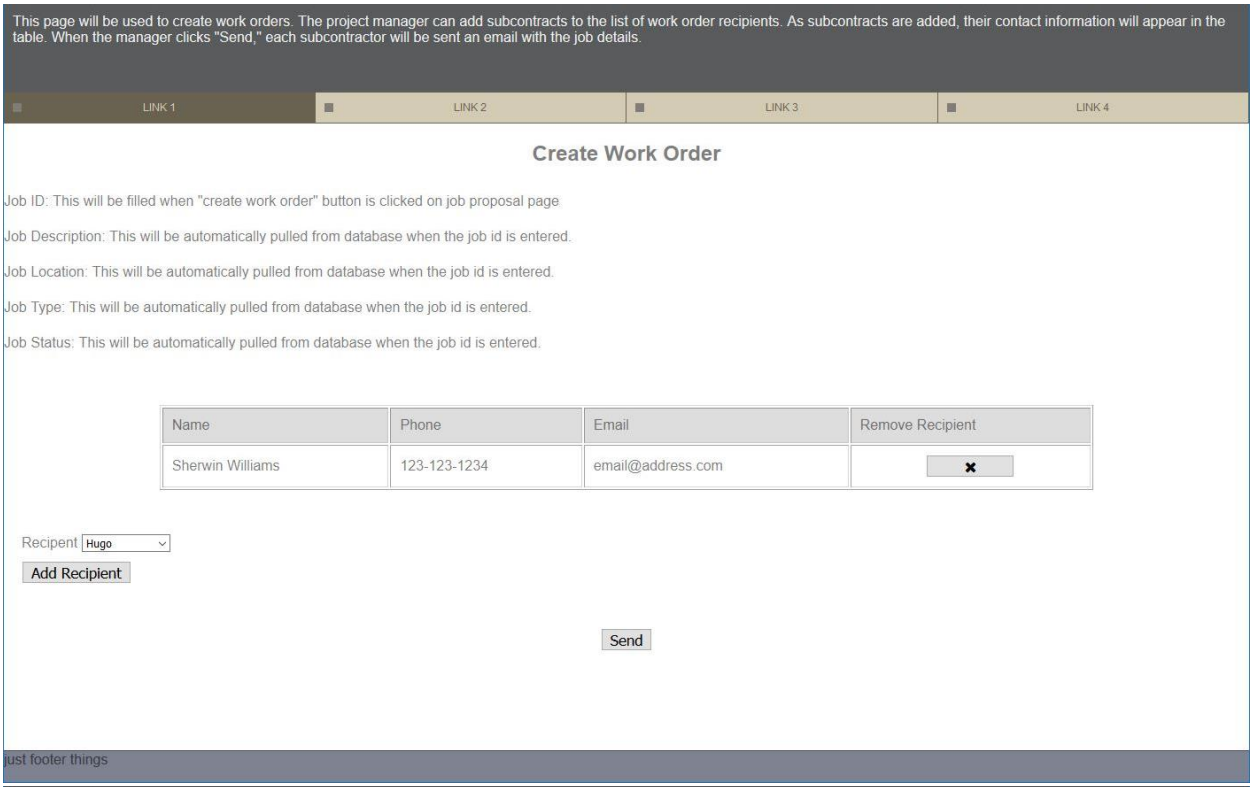
Figure 5 & 6

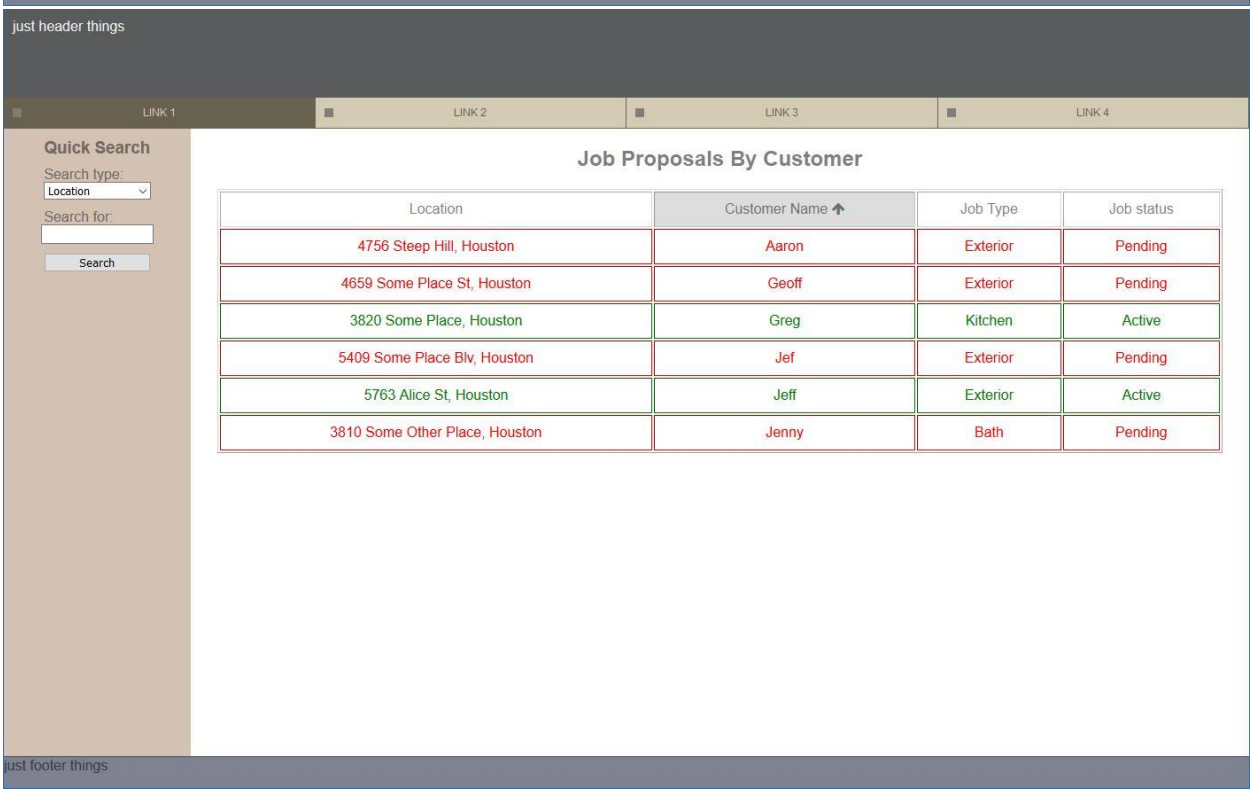




Application Prototype (Cont.)

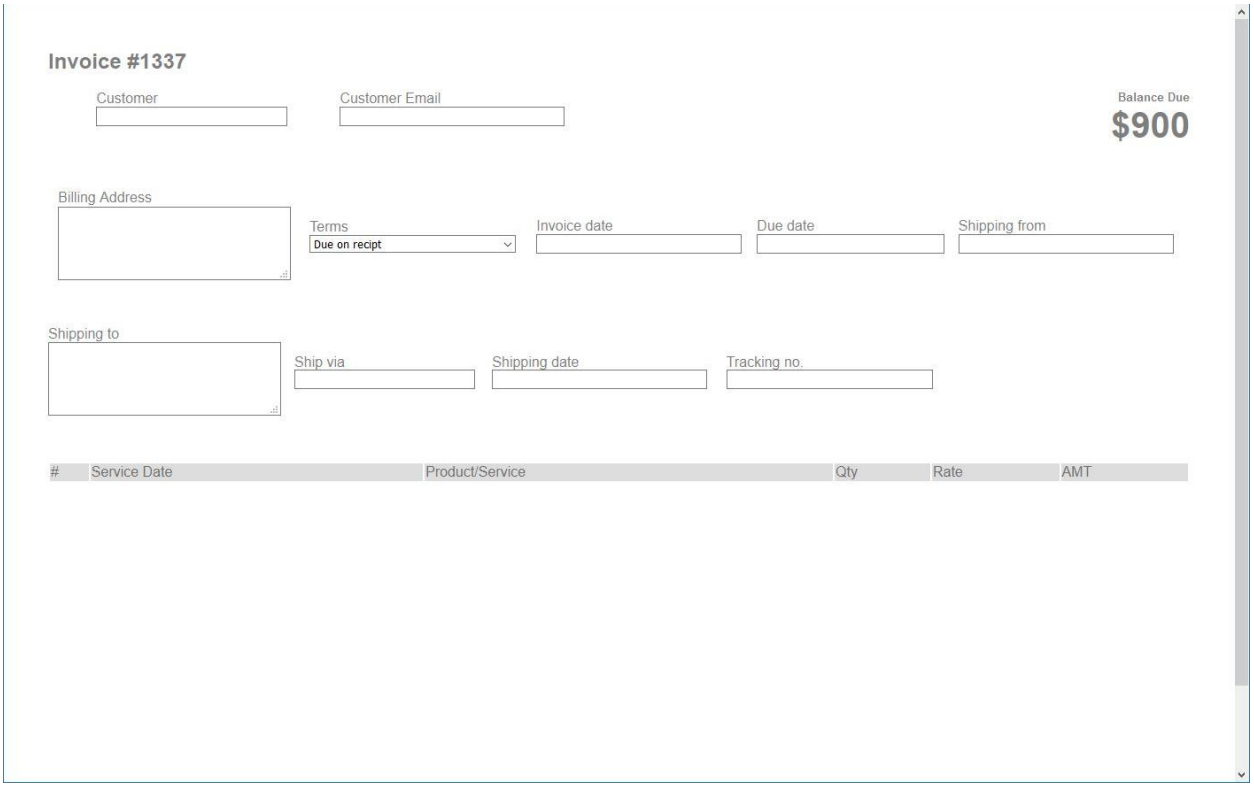
Figure 7 & 8





Application Prototype (Cont.)

Figure 9



Executive Summary

Overview

CoogNet formerly known as Cougar Tech Networking is working cooperatively with TKS Studios to develop an information system that will improve both the company's functionality and efficiency. The scope of this project is based on the method in which TKS stores project information and generates reports for their clients. CoogNet has analyzed the current system and determined it is inefficient and lacking in functionality.

Our Goals

The goal at CoogNet is to develop an information system for TKS Studios that will be able to save TKS $50,000 in expenses over the course of five years. Additionally, we want to able to create a custom database system with 40 or more different tables that are interrelated with each other based on business requirements. Based on our analysis of TKS Studios and how it utilizes both client and project information, we believe these goals are attainable.

The Problem

Although TKS Studios possesses the hardware and knowledge to be able use a customized information system, TKS does not have an information system in place. Currently, TKS Studios is using several off-the-shelf applications to complete their task including Quickbooks and Buildertrend. Buildertrend, however, does not facilitate the task of transferring data to Quickbooks in order to create invoices. Additionally, Buildertrend does not have a very smartphone friendly interface which makes it difficult for TKS Studio to add or edit project information while on the construction site. On average, this takes an additional hour per project and if notes of on-site assessment are corrupted it could lead to errors.

The Solution

The solution we have developed is to create a user-friendly application that works on a variety of devices and can accomplish all the tasks required in TKS Studios' daily schedule. Once our clients enter a customer's information it will lead them to pre-defined automated forms that will record project details. This will allow TKS to further save time while entering information. Additionally, our solution will allow the generation of invoices directly, without

Quickbooks as an intermediary. The information system that will be developed should be the only application needed to complete all daily tasks and invoicing.

Conclusion

In conclusion, after analyzing TKS Studios current process and requirements we were able to determine that developing a user-friendly and efficient information was possible. Using the knowledge gained through our analysis, we designed a prototype that resembles of how the forms and application will look in the proposed system. After finishing our non-functional prototype, TKS Studios was able to further envision how they would like the information system to work, and were pleased with the potential the information system would bring to TKS Studios.

Listing of Authors per Deliverable

Deliverable	Authors
Identification of Team Members	Kavon
Team Name	Kavon
Team Logo	Kavon
Team Communication Plan	Kavon
Confirm Client Organization	Jorge
Client Organization History/Background	Aidahta
Client Organization Timeline	Daniel
Client Organization Chart	Daniel
Project Selection Analysis	Ayoub
Initial Problem Statement and Requirements List	Jorge
Scope Diagram	Tyler
Data Gathering Goals	Aleena
Data Gathering Methods	Aleena
Data Gathering Questions	Kavon
Team Roles/Responsibilities Matrix	Kavon
Data Gathering Results	Jorge
Current System Description	Ayoub
Current System Problem Description	Ayoub
Client Organization Objective List	Kavon
Client Application (System) Objective List	Ayoub
Individual Users Objective List	Tyler
STROBE Analysis	Ayoub
Samples of Records	Jorge
Initial Project Work Breakdown Structure	Kavon
Gantt Chart	Daniel
PERT Diagram	Eduardo
Users/Stakeholder's Analysis	Aleena
Initial Feasibility Analysis (Technical, Economic, and Operational Feasibilities)	Tyler
Continue to Update Problems & Requirements List	Aidahta
Critical Requirements Analysis Objective Tree	Eduardo
Current Business Rule List	Kavon
Current Business Activity List	Trent
Current Event Response Table	Kavon
Current System Data Flow Diagrams (Visible Analyst)	Trent
Current Data Dictionary	Trent
Current Entity Relationship Diagram	Tyler
Continue to Update Problems & Requirements List	Trent
Client SWOT Analysis	Aleena
Systems Proposal with at least 2 or 3 options	Tyler, Jorge

Systems Proposal PowerPoint Presentation	Jorge, Kavon, Ayoub, Tyler, Trent, Daniel, Aleena, Aidahta, Eduardo
Current Systems Study with References	Jorge, Kavon, Ayoub, Tyler, Trent, Daniel, Aleena, Aidahta, Eduardo
Listing of Authors Per Deliverable	Kavon
Sponsor Decision regarding Systems Proposal (Need Feedback on Acceptance to your Proposed Solution)	Jorge
Continue to Update Problems & Requirements List	Kavon, Aidahta
Required System Entity Relationship Diagram	Tyler
Required System Business Rule List	Ayoub
Required System Business Activity List	Ayoub
Required System CRUD matrix	Tyler
Use Case Scenarios (Minimum 3 per team members)	Jorge, Kavon, Ayoub, Tyler, Trent, Daniel, Aleena, Aidahta, Eduardo
Required System Event Response Table	Aleena
Required System DFD (Visible Analyst) Each team member must do at least one lower level DFD	Jorge, Kavon, Ayoub, Tyler, Trent, Daniel, Aleena, Aidahta, Eduardo
Required System Data Dictionary	Daniel
Required System Feasibility Analysis	Jorge
Application Architecture Diagram	Trent, Ayoub, Aleena, Aidahta, Eduardo
Data Acquisition and Data Conversion Strategy	Daniel
Initial Draft of Testing Plan for Application and Database Creation	Tyler, Jorge
Application Prototype (All Reports and Menus) Each team member must create 2 unique reports	Tyler
Updated Listing of Authors Per Deliverable	Kavon
Complete List of References	Jorge, Kavon, Ayoub, Tyler, Trent, Daniel, Aleena, Aidahta, Eduardo
Executive Summary of Project	Jorge
Updated Client Background Information	Aidahta
Final Problems & Requirements list	Kavon, Jorge
Full Documentation of all Required System Deliverables printed and bound in binder along with 3 USB's or CD's that includes all digital files	Jorge, Kavon, Ayoub, Tyler, Trent, Daniel, Aleena, Aidahta, Eduardo

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