Project Status Report

For NW-BYOTEK

By Triton Consulting Group

5/15/2023

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Section 1: Project Summary

Back at the start of April, NW-BYOTEK contacted our team to get a new system for their building located in Seattle. Since then, we have been hard at work developing this system from the ground up. The system we have developed has been designed to utilize a database, cloud computing, security grid, and tracking sensors. With this technology, the system can track the inventory of all twelve laboratories in real time, record what happens inside and outside of the building with the installed security cameras, keep log in information of every scientist and security guard at the facility, send alerts for errors and important events when necessary, and generate reports to help with the writing work the scientists must do. With all these features, we are confident with the system that we have developed for NW-BYOTEK what should be able to properly keep track of the chemicals they work with as well as the facility being a secure place to work. Below is a list of the many benefits the new system will have.

1.1 Benefits of the New System

- Easier to keep track of which chemicals are in high or low supply, and which chemicals are in which laboratories

- Built in shopping feature to always have chemicals in stock

- Employee and lab data is always available to view

- Work speed increased with report generator

- Chemical pages make it easier to check on the specific chemical you need to about

- Easier to know when something has gone wrong with error alerts

- Security footage is easier to view, and multiple streams can be viewed at once

- Access request forms for picking up chemicals

- Easier to find your own or other employee's information

Section 2: Project Status

2.2 Project completion

The Triton Consulting Group alongside the programming team proceeded with the system implementation phase. The programming team completed the coding step, the testing plan and they are still working on the documentation. They started the testing phase and only completed the first step related to syntax errors so far. The team is ready to start the second step of the testing starting from next week.

The next section and figure 1 summarize the overall project completion status

1. **Requirement Gathering and Analysis- 100% complete. (4/19)**

2. **Design Phase- 100% complete**
   o   User Interface design-100% -(completed 4/12, estimated 4/24)

   o   Report Design Mockups-100%-(completed 4/16, estimated 4/28)

   o   Database Design-100%- (completed 4/26, estimated 5/4)

   o   System Architecture Final design- 100%- (completed 5/1, estimated 5/10)

3. **Implementation Phase- 64% complete**
   o   Coding- 100% complete (completed 5/5, estimated 5/15)

   o   Testing Plan-100% complete (completed 5/10, estimated 6/19)

   o   Testing- 10% complete (estimated 6/28)

   o   Installation/Go Live- 0% complete.

   o   Training- 0% complete

- o   Operations and Maintenance- 0% complete

- o   Documentation- Ongoing Until Phase Completion

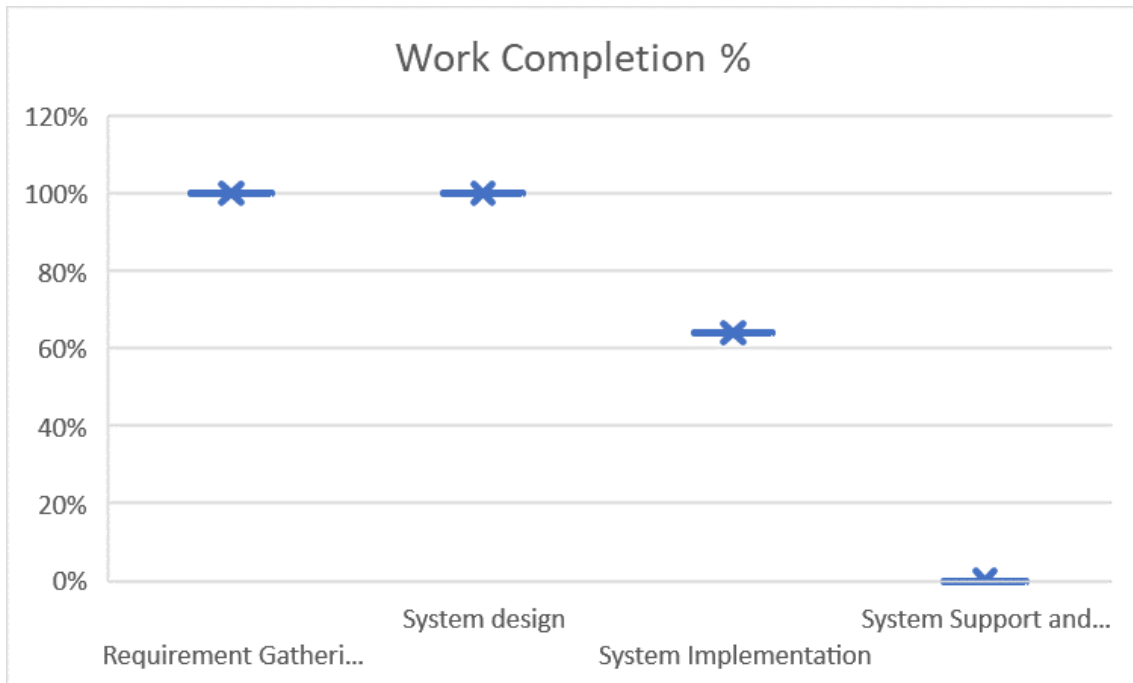**4. System Support and Security Phase- 0% complete.**

Figure 1: Work completion percentage

2.3 Overall Budget Spent

In our contract with NW-BYOTEK, the budget agreed to was $43,000.00 and the team has

spent around $19,700.00 so far.

The chart below is a comparison between the estimated cost and the amount already spent

for each phase. The first two phases completed the team stayed within budget. In the

implementation phase we are at 50% of completion and as shown in the graph we are

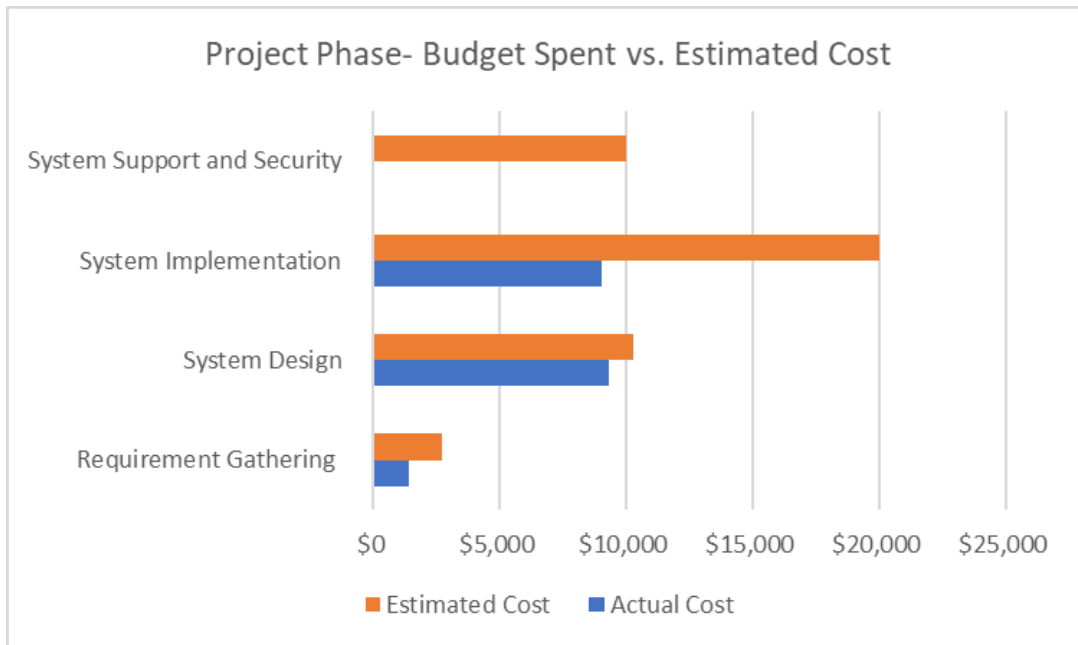halfway the money estimated for that phase.

Figure2: Comparison between the actual cost and estimated cost for each phase

2.4 Confidence Summary

With our consistent performance being under budget and ahead of schedule, Triton Consulting

Group is pleased to present a comprehensive overview of our confidence for the chemical

inventory management system project. Our outstanding track record gives our project team

great confidence that they will be able to complete the job effectively while adhering to the

established timeline and allocated budget.

Budget Allocation:

We would like to first highlight Figure 3, which highlights the budget allocation pie chart. This

graphic representation of the distribution of funds across several project categories provides an

overview of how the project budget has been meticulously allocated. With this visualization,

stakeholders can clearly see how the budget has been distributed, ensuring transparency and
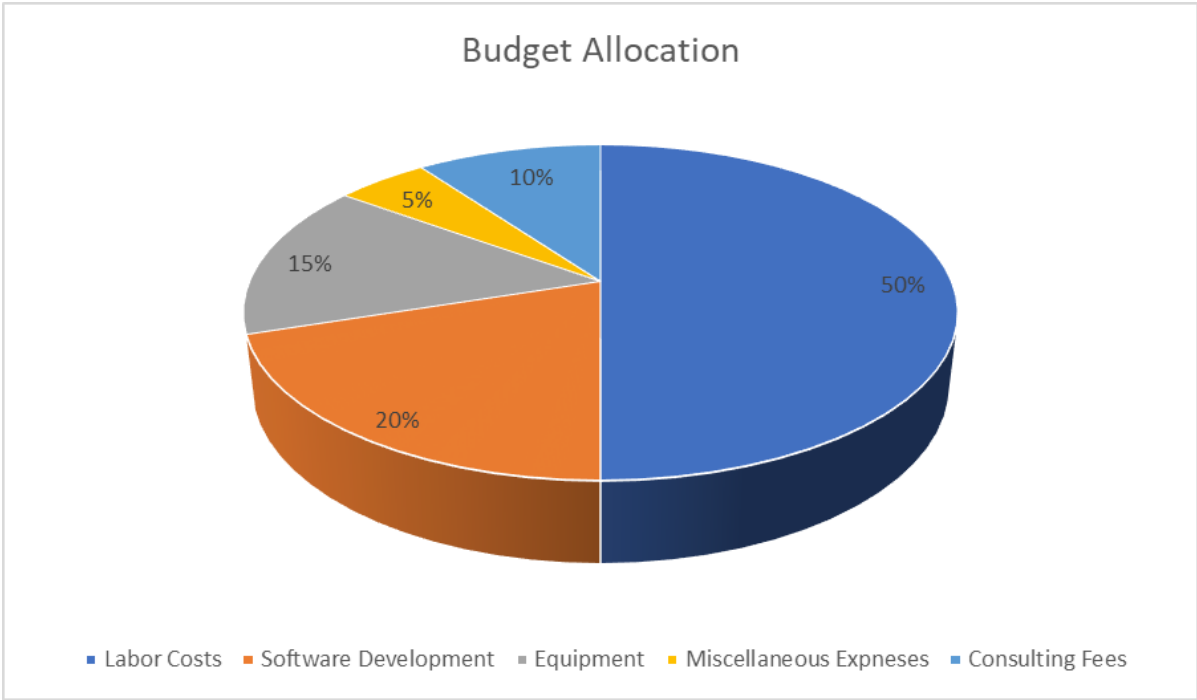
effective resource usage.

Figure 3: Budget Overall Budget Allocation

Estimated Budget Spent vs. Actual Budget Spent:

Adherence to the budget is one of the key aspects of our project's financial performance.

Throughout the course of the project, we have closely monitored our expenditures and our

adherence to the overall budget. Since the commencement of the project in April and until the

time of this report, our budget has been consistently under our initial estimated budget

expenditure, as depicted in Figure 4. This has given us a high level of confidence in our ability to

continue to remain well within the budget for the remainder of the project timeline.
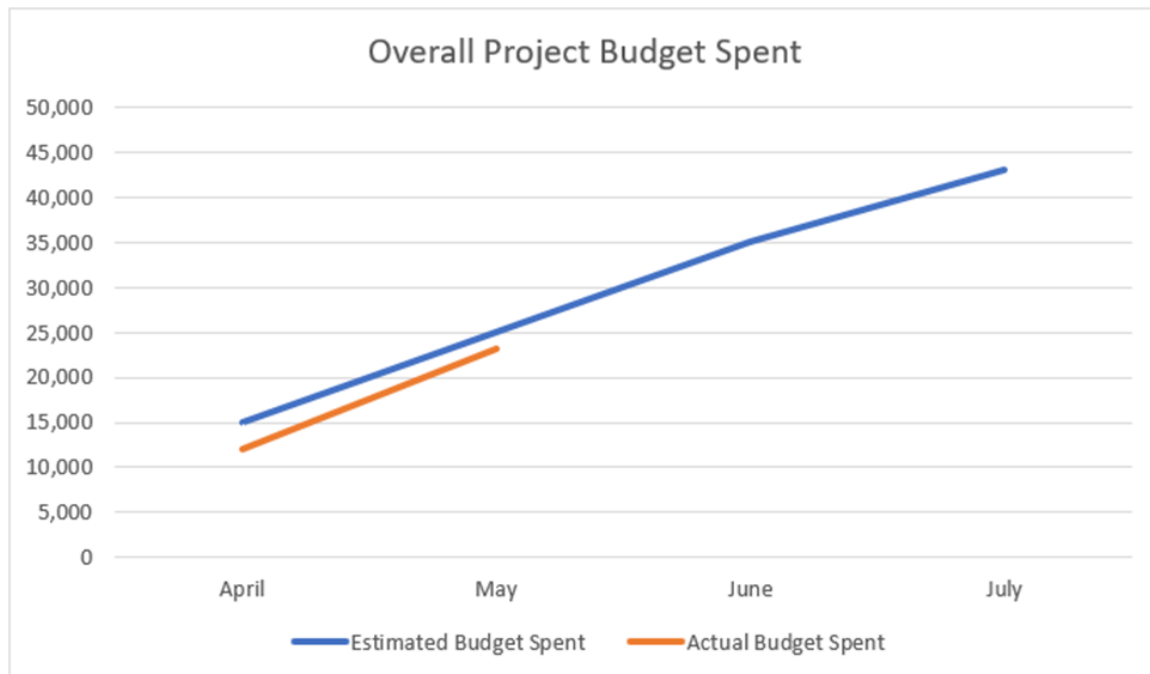
Figure 4: Actual Overall Budget Spending vs. Estimated Overall Budget Spending

Schedule

In terms of project schedule, we are incredibly confident as we are ahead of schedule in several phases as shown in section 2.1. To highlight some of these accomplishments:

Requirements Gathering and Analysis: reached 100% completion on the estimated date of April 19th.

Design Phase: All sections of the Design Phase including User Interface Design, Report Design Mockups, Database Design, and System Architecture Design have reached 100% completion well before their estimated completion date.

Implementation: Two critical tasks, Coding and Testing Plan, were completed before their expected completion date, testing plan being completed more than a month before the estimate.

Factors to Increase Team Comfort Level

Technical Challenges: Our team is having trouble estimating the cost of the significant testing and validation that will be needed to integrate the new system with the existing storage security measures, such as security cameras and gas detection. Our team would feel more assured of our ability to stick to our assigned budget in this area if we spoke with professionals in the sector.

External Dependencies: We will be dependent on third-party vendors to acquire certain equipment and components for this project including label printers, bar scanners, and more workstations. If the vendors experience issues and delay the shipment of any of these components that may lead to negative impacts to our budget and project timeline. By establishing close communication and anticipating these delays will boost our team's comfort levels.

Safety Law Compliance: Failure to adhere to all necessary safety and compliance requirements, such as OSHA and EPA laws, may result in severe delays to our project's schedule. Our team's confidence will grow as we make efforts to guarantee that our system complies fully with these standards at every stage of development.

Being consistently under budget and on schedule is evidence of our project team's excellent planning abilities, seamless communication, and meticulous attention to detail and has instilled a great deal of confidence in our ability to meet project budget and timeline requirements. We have built a solid foundation of faith in the successful and prompt delivery of the chemical inventory management system components thanks to this efficiency's proved effectiveness. Going ahead, we are dedicated to keeping a close eye on the project's budget and schedule, proactively addressing any problems, and upholding our strict standards. The unrelenting commitment of our team to completing the project on time and on budget will guarantee a result that meets or exceeds stakeholders' expectations.

Section 3: Database & UI Prototype

3.1 Purpose

The purpose of the prototype is to create an example of the new system that will be tested and evaluated in the preliminary stages of the design phase. Prototyping allows NW-BYOTEK to test and validate system design concepts without actually having to build them. This enables designers and developers to identify errors and any missing functionality before implementing the system and is the most effective way to reduce the total cost of ownership.

Another benefit of prototyping is that it increases user involvement, as the stakeholders are included in the design process and can leave feedback. This also helps to identify functions early on that can be difficult for the user to understand.

Defects are detected earlier through prototyping, allowing for them to be addressed before the system is fully implemented. Missing functionality can also be identified easily through prototyping, ensuring that the final system meets user needs and expectations. It is important to use prototyping to detect missing functionalities, confusion, and defects. By using prototyping, we can detect these issues early on.

In conclusion, the prototype is crucial since it allows us to identify and adjust issues early in the process which speeds up the development process. It also makes it possible to try different ideas before finalizing them. All this together makes stakeholders happy with the result and reduces time and cost.

3.2 Type

We used the throwaway type to conduct our prototyping as it allowed us to quickly create a design for the stakeholders to review. This quick approach ensured that we got the needed feedback from the users at an early stage, while minimizing the cost of trial and error.

3.3 Approach

We used the throwaway prototyping approach which can be described as a rough draft of the system. It was created quickly to demonstrate the system to keep feedback and adjust requirements. Through storyboarding, we were able to create a visual mockup of the system GUI and the various reports that NW-BYOTEK had requested. We also used Microsoft Access to create a rough draft of the database as this was a quick and efficient way to show back-end functionality. Along with our database, we created a data dictionary, a network model, and a process diagram to provide further context.

3.4 Process

Our process for developing the prototype started by analyzing the stakeholder's functional and nonfunctional requirements, as well as overall business needs. Following that, we created a plan where we decided what prototype approach would benefit both parties the most and we created a timeline that included the steps to finalize the prototype.

We began developing the prototype using storyboarding and displaying all screens the users would interact with in the new system. After that, we conducted user testing and survey feedback. From the feedback we gained, we were able to adjust the prototype. When the adjustments were done, we were able to do the final testing to ensure the systems met all

the requirements and needs. During the development of the system, we met with the

stakeholders weekly to touch base and collect their feedback. This helped us to ensure that

the design was developed according to their requirements.