Audiobook Web Application Post-Implementation Report (PIR)

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Abstract

Motivate Audio, LLC invested in a solution that solved the problem of an excessively slow-loading website and allowed users to stream audiobooks directly from the website rather than having to download each book to listen to it. The company needed a customized lightweight web solution with faster loading speeds and easy audiobook streaming capabilities with a one-time monthly subscription payment to access all books for the month. The purpose of the approved solution, a *customized audiobook-streaming web application*, was to solve the problem of an excessively slow-loading website and allow users to stream audiobooks directly from the website which would enhance the customer experience. The custom audiobook web application solved the problem of a slow-loading website experience, and a fast modern web application was created that customers were able to access from any device. Customers could access all audiobooks with a monthly subscription, taking the old problem away of the website bandwidth being taken up from customers downloading audiobooks. Since the project launch, the metrics that were used to measure the proposed and actual outcomes of the project were percentages of an increase in customer satisfaction, a decrease in audiobook accessibility slowness and freezing, and a cut in web application expenses. The expected percentages were an increase in customer satisfaction by 25%, a cut in web application expenses by 50%, and a decrease in audiobooks accessibility slowness and freezing by 90%. If the outcomes matched or exceeded these percentages, then the project was considered successful, if it fell below these percentages then the project’s success would need to be re-evaluated.

Keywords: custom, problem, solution, project

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# Audiobook Web Application PIR

Motivate Audio, LLC invested in a solution that solved the problem of an excessively slow-loading website and allowed users to stream audiobooks directly from the website rather than having to download each book to listen to it. The company needed a customized lightweight web solution with faster loading speeds and easy audiobook streaming capabilities with a one-time monthly subscription payment to access all books for the month.

Motivate Audio, LLC started as a small business featuring a simple website that hosted only one downloadable audiobook which customers could purchase and download from the website. The book became a top seller and sold hundreds of copies. However, the company had since expanded itself to offer 500 downloadable audiobooks, and the number of books available to download at one time caused the problems of freezing and extremely slow webpage loading. The service was costly, and the CMS provider did not offer managed hosting, which meant that bandwidth was not increased or decreased as needed for traffic on the website.

The purpose of the approved solution, a *customized audiobook-streaming web application*, was to solve the problem of an excessively slow-loading website and allow users to stream audiobooks directly from the website which would enhance the customer experience. The custom audiobook web application solved the problem of a slow-loading website experience, and a fast modern web application was created that customers could access from any device. Customers could access all audiobooks with a monthly subscription, taking the old problem away of the website traffic exceeding bandwidth from multiple customers downloading audiobooks. Since the project launch, the metrics that were used to measure the proposed and actual outcomes of the project were percentages of an increase in customer satisfaction, a decrease in audiobook accessibility slowness and freezing, and a cut in web application expenses.

The Software Development Life Cycle (SDLC) process using an iterative model was the method used for the project planning and implementation because it allowed for a more structured, yet flexible iterative approach that was tailored to the project. The SDLC process was tailored to fit the nature of the customized audiobook-web application. Each of the phases was used to guide the completion of project deliverables, to reach KPI objectives and project outcomes. The expected outcomes were an increase in customer satisfaction by 25%, a cut in web application expenses by 50%, and a decrease in audiobooks accessibility slowness and freezing by 90%. If the outcomes matched or exceeded these percentages, then the project was considered successful, if it fell below these percentages then the project’s success would need to be re-evaluated.

**Quality Assurance**

Since the project launch, the metrics that were used to measure the proposed and actual outcomes of the project were percentages of an increase in customer satisfaction, a decrease in audiobook accessibility slowness and freezing, and a cut in web application expenses. The expected percentages were an increase in customer satisfaction by 25%, a cut in web application expenses by 50%, and a decrease in audiobooks accessibility slowness and freezing by 90%.

**Formative Evaluation and QA Metrics**

Formative Quality Evaluation is “the process of documenting those situations where there are significant deviations from the quality specifications of a project (Dixon, 1987)”. It ensures timely needed adjustments for the protection and success of the project (1987). A Formative Quality Evaluation Document was used while the project was being implemented to help it stay on track. The document contained Quality Assurance (QA) metrics to formatively assess and make course corrections to ensure the project was successful as it progressed. The Quality Evaluation Document included evaluations for the following metrics:

* Provide cutting-edge audiobook services that customers expect in a modern economy
* Increased customer satisfaction by 25%
* Cut web application expenses by 50%
* Decreased audiobook accessibility slowness and freezing by 90%
* Integrate the existing point of sale (POS) system into the new web application

These metrics measured the project’s success and actual results. Data from the Quality Evaluation Document shows which metrics remained in line with the project’s major goals and the company’s vision and business needs, as well as any metrics that deviated from the project’s main goal *to solve the current problem of an excessively slow-loading website and allow users to stream audiobooks directly from the website which will enhance the customer experience.*

**Testing Methodology**

The custom audiobook web application was evaluated according to test results by requirement, which is the “Most common way to see what features are being tested and see how many tests we have aligned with a user story or requirement (Tricentis, 2016)”. This testing method was chosen to ensure quality assurance and adherence to the project goals, scope, and the company’s vision and business goals. See Table 1.

**Test Cases**

**Table 1**

***Test Case Results by Requirements***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **REQ** | **TC** | **Name** | **Result** | **Frequency** | **Number of Tests** |
| REQ 1 | TC | Decrease in web application speed by 90%. | PASS | Daily | 50 |
| REQ 2 | TC | Customers can register and log in. | PASS | Daily | 50 |
| REQ 3 | TC | Customers can use POS System seamlessly to make payments from the app. | PASS | Daily | 50 |
| REQ 4 | TC | Customers have unlimited access to all audiobooks. | PASS | Daily | 50 |
| REQ 5 | TC | Customers can play audiobooks directly from the web app. | PASS | Daily | 50 |

Testing the number of defects per requirement helped the development team to gauge the level of riskiness per requirement (Tricentis, 2016). See Table 1. Test Cases were carried out daily with at least 50 test cases per requirement. The software was debugged and adjusted as needed until all test cases were continually passing with no fails.

**Table 2**

***Total Number of Defects for Test Cases***

|  |  |  |
| --- | --- | --- |
| **REQ** | **Name** | **Total # of Defects** |
| REQ 1 | Decrease in web application speed by 90%. | 0 |
| REQ 2 | Customers can register and login | 0 |
| REQ 3 | Customers can use POS System seamlessly to make payments from the app. | 0 |
| REQ 4 | Customers have unlimited access to all audiobooks. | 0 |
| REQ 5 | Customers can play audiobooks directly from the web app. | 0 |

Besides the number of tests being tracked as seen in Table 1, the total number of defects for each requirement was also tracked by the development team to gauge the level of repair that was needed for debugging for each requirement. See Table 2. The number of defects showed the development team whether the requirement was a problem (Tricentis, 2016).

**Acceptance Criteria**

Evaluation for this project was practiced according to a results-based evaluation framework that included *ongoing monitoring* to identify and highlight problems as they emerged, *regular monitoring to* analyze issues and suggest follow-up measures, and *monitoring* at *specific times* of the project life to review the whole strategy and recommend adjustments (Gumz & Parth, 2007). The project was evaluated based on the following planned outcomes or acceptance criteria.

* Increased customer satisfaction by 25%
* Cut web application expenses by 50%
* Decreased audiobook accessibility slowness and freezing by 90%

If the outcomes matched or exceeded these percentages, then the project was considered successful, if it fell below these percentages then the project’s success would need to be re-evaluated.

***Ongoing Monitoring***

The project’s activities and outcomes were monitored, evaluated, and assessed by ongoing monitoring. “Evaluation is a time-bound exercise to assess systematically and objectively the relevance, performance, and success of ongoing and completed projects (Gumz & Parth, 2007).” Whether customer satisfaction rates increase by 25% were monitored by surveys which were sent out to customers and made available on the website at a regular interval of once a month. This evaluation provided a regular determination of the project’s performance and success.

***Regular Monitoring***

The project’s activities and outcomes were monitored, evaluated, and assessed by regular monitoring. “Results-based monitoring goes beyond implementation monitoring in that it examines what changes are occurring in the real world (Gumz & Parth, 2007).” Whether the audiobook accessibility slowness and freezing by 90% were met, was evaluated continuously and daily. This evaluation was conducted throughout the life of the project and examined actual changes.

***Monitoring at Specific Times***

The project’s activities and outcomes were monitored, evaluated, and assessed by monitoring at specific times. “Evaluation is undertaken to answer specific questions, to guide the sponsor, decision-makers, and managers, and to provide information on…what worked and what did not work, and why (Gumz & Parth, 2007).” Whether web application expenses were decreased and remained decreased by 50% was measured every 6 months. This evaluation guided the company and provided information on what worked and what did not work.

# Project Review

For the most part, the project went as planned and most of the deliverables were completed early or on time. Many of the deliverables had overlapping timeframes, and if a deliverable didn’t go as planned, it didn’t really mess with the timeframe, because somewhere else, a deliverable was completed early, which freed up a developer who could help with the delay. For example, researching the best way to integrate the existing POS service into the new web application was planned to take 9 days before making the best decisions possible for this project, however, it took an additional 3 days to complete because the current hosting provider did not provide an API for integrating their service into a custom website. Therefore, the development team found another POS provider, which was approved and implemented instead. However, the delay did not affect the overall timeframe due to other deliverables being completed early, which freed up developers to concentrate on the problem and keep the project on track. See Table 3 on page 14.

**Assumptions**

It was assumed that employees would easily transition to the use of the new app since the custom application would mirror the design of the old website. It was assumed that employees would be able to learn how to navigate the web application quickly to be able to assist customers who would need assistance. It was also assumed that the previously existing high-speed internet service, had nothing to do with the problem of the slow-moving web application and would therefore not affect the new faster web application in any way.

The assumption that employees would easily transition to the use of the new app, was correct. However, some employees needed more time than others to adjust. Employees worked together and those who learned faster assisted those who learned slower. Thus the assumption that employees would be able to navigate the web application quickly while assisting customers, was correct. Finally, the assumption that the previously existing high-speed internet service had nothing to do with the problem of the slow-moving web application and would therefore not affect the new faster web application in any way, was also correct.

**Project Phases**

In general, SDLC Phases are not always completed consecutively, and more than one phase can be occurring at the same time, even for the length of the project. However, this section will describe the phases used for this project and what occurred during each phase according to start and end dates. See Table 3 on page 14.

***Planning***

The planning phase began on March 11, 2021, and ended on March 19, 2021. Project *initiation* was considered part of the planning phase for this project. During initiation, the project’s goals were defined, the project charter was completed, and a list of stakeholders was put together. In this phase, technical requirements were identified, a detailed project schedule was developed, a communication plan was developed, and deliverables were set up (Kiss flow, 2022).

**Minor Deviation in Planning**

Researching the best way to integrate the existing POS service into the new web application was planned to take 9 days before making the best decisions possible for this project. However, it took an additional 3 days to complete because the current hosting provider did not provide an API for integrating their service into a custom website. Therefore, the development team found another POS provider, which was approved and implemented instead. See Table 3 on page 14.

***Execution***

The execution phase began on March 19, 2021, ended on May 30, 2021. During the *execution* phase, project resources were managed and allocated, the project was built, any third-party services were initiated, any issues were faced as they arose, and the project was implemented. See Table 3 on page 14.

***Monitoring and Controlling***

The monitoring and controlling phase began on March 19, 2021, and continued through to May 30, 2021. “The project monitoring and controlling phase run simultaneously with project execution, thereby ensuring that objectives and project deliverables are met (Kissflow, 2021)”. During the *monitoring* *and* *controlling* phase, cost and progress were tracked and it was ensured that the project was adhering to the plan to prevent any chance of scope creep or disruptions. Monitoring and controlling never really ended, but the development team will continue to monitor and control throughout the life of the project. See Table 3 on page 14.

***Closing***

The closing phase began on April 30, 2021, and ended on May 30, 2021. “The final task of this phase was to review the entire project, complete a detailed report that covered every aspect (Kissflow, 2021)”. During the *closing* phase, the implementation along with all necessary documentation was completed and finalized. See Table 3 on page 14.

**Table 3**

***Timeline with Milestones or Deliverables with Dates***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Milestone (Deliverable)** | **Phase (Not Measured by Time)** | **Duration of Deliverable** | **Start Date** | **End Date** | **Date Deviations** |
| ***Deliverable* (Objective 3)** Choose a reputable and cost-friendly managed hosting. | Planning | 9 workdays | March 11, 2021 | March 19, 2021 | No |
| ***Deliverable* (Objective 5)** Research the best way to integrate the existing POS service into the new web application. | Planning | 9 workdays | March 11, 2021 | March 19, 2021(Date Extended) | Yes  3 Days Longer  Ended  March 22 |
| ***Deliverable* (Objective 6)** Back up and remove the company’s proprietary data from the account with the existing CMS provider. | Execution,  Closing, Monitoring & Controlling | 8 workdays | March 19, 2021 | March 26, 2021 | No |
| ***Deliverable* (Objective 4)** *Host* the audiobooks with cutting-edge fast audiobook streaming services so that customers can listen to audiobooks on the go and from any device*.* | Execution, Monitoring & Controlling | 1 Month | March 27, 2021 | April 27, 2021 | No |
| ***Deliverable* (Objective 3)** Use the in-house development team for project development. | Execution, Monitoring & Controlling | 1 Month | March 27, 2021 | April 27, 2021 | No |
| ***Deliverable* (Objective 4)** *Use* custom code as a lightweight option for front-end development. | Execution, Monitoring & Controlling | 1 Month | March 27, 2021 | April 27, 2021 | No |
| ***Deliverable* (Objective 4)** *Host* the server, API, and web application with cutting-edge cloud services to deploy and scale the application dynamically according to the number of users. | Execution, Monitoring & Controlling | 1 Month | March 27, 2021 | April 27, 2021 | No |
| ***Deliverable* (Objective 4)** *Create* custom API for quick and easy access to audiobook data from the web application. | Execution, Monitoring & Controlling | 1 Month | March 27, 2021 | April 27, 2021 | No |
| ***Deliverable* (Objective 1)** Provide dynamic access to audiobooks without the need to download | Execution, Monitoring & Controlling | 1 Month | March 27, 2021 | April 27, 2021 | No |
| ***Deliverable* (Objective 1)** Provide a monthly subscription payment that gives customers access to all books. | Execution, Monitoring & Controlling | 8 workdays | April 27, 2021 | April 3, 2021 | No |
| ***Deliverable* (Objective 5)** Integrate the POS system into the new web application so that customers can access account information and manage subscriptions. | Execution, Monitoring & Controlling | 8 workdays | April 4, 2021 | April 11, 2021 | No |
| ***Deliverable* (Objective 6)** Complete the new web application. | Execution, Monitoring & Controlling | 1 Month | March 27, 2021 | April 27, 2021 | No |
| ***Deliverable* (Objective 2)** Notify the customers of the new and improved application before it is launched. | Execution, Monitoring & Controlling | 8 days (64 hours) | April 28, 2021 | May 18, 2021 | No |
| ***Deliverable* (Objective 6)** Launch the new web application. | Execution,  Monitoring & Controlling | 8 days (64 hours) | May 19, 2021 | May 26, 2021 | No |
| ***Deliverable* (Objective 2)** Notify the customers once the new application is launched and give them 2 months to switch over to the new application. | Closing,  Monitoring & Controlling | 4 days (32) | May 26, 2021 | April 30, 2021 | No |
| ***Deliverable* (Objective 6)** Cancel the service with the existing CMS provider. | Execution, Closing,  Monitoring & Controlling | 4 days (32) | May 26, 2021 | May 30, 2021 | No |
| ***Deliverable* (Objective 2)** Provide monthly surveys for customers to leave feedback about the new web application after it is launched. | Monitoring & Controlling | 4 days (32) | May 26, 2021 | May 30, 2021 | No |

**Timelines**

This section explains the reasoning behind the length of time required for each aspect of the proposed implementation. See Table 3.

* Choosing a reputable and cost-friendly hosting took 9 workdays to complete because it took 9 days to research before making the best decisions possible for this project.
* Researching the best way to integrate the existing POS service into the new web application was planned to take 9 days before making the best decisions possible for this project, however, it took an *additional 3 days* to complete because the current hosting provider did not provide an API for integrating their service into a custom website. Therefore, the development team found another POS provider, which was approved and implemented instead.
* Backing up and removing the company’s proprietary data from the account with the existing CMS provider took 8 workdays because the amount of data was large and deciding the best format and storage space for these important company assets was crucial.
* *Hosting* the audiobooks with cutting-edge fast audiobook streaming services so that customers could listen to audiobooks on the go and from any device*,* using the in-house development team for project development, using custom code as a lightweight option for front-end development, hosting the server, API, and web application with cutting-edge cloud services to deploy and scale the application dynamically according to the number of users, *creating a* custom API for quick and easy access to audiobook data from the web application, and providing dynamic access to audiobooks without the need to download, took one month, because third parties were involved and all of these actions were related and intertwined or depended on each other.
* Providing a monthly subscription payment that gave customers access to all books, took 8 workdays for research and development.
* Integrating the POS system into the new web application so that customers could access account information and manage subscriptions, took 8 workdays for research and development.
* Completing the new web application took one month because it involved developing different parts which all needed to be integrated into one application and connected to external services.
* Notifying the customers of the new and improved application before it was launched, took 8 days to give the customers time to adjust or act accordingly.
* Launching the new web application took 8 days to allow time for any debugging or fixes once the application was live.
* Notifying the customers once the new application was launched and giving them 2 months to switch over to the new application, helped them transition smoothly without feeling rushed.
* Finally, canceling the service with the existing CMS provider, and providing monthly surveys for customers to leave feedback about the new web application after it is launched, took 4 days to complete. The canceled service needed to be done correctly without rushing, and the surveys required research and development before being sent out to customers.

## Timeline Deviations

Researching the best way to integrate the existing POS service into the new web application was planned to take 9 before making the best decisions possible for this project, however, it took an additional 3 days to complete because the current hosting provider did not provide an API for integrating their service into a custom website. Therefore, the development team found another POS provider, which was approved and implemented instead. See Table 3.

## Project Dependencies

Besides project approval, the implementation of this project depended on the proper time allotted to each milestone including workday hours. If an employee was sick, the hours needed to be made up somehow. For example, one or more employees would volunteer to work weekends to help make up for the lost hours. The project also depended on full access to high-speed internet because most of the work required internet use. The development of the project was dependent on the initiation of service with providers for hosting, for example, the audiobook hosting and streaming provider. This was because the developers needed to base the project design and development on the functionality of these services. The project also depended on the willing cooperation of all stakeholder groups.

## Resource Requirements

**Table 4**

***Resource Allocation Plan***

|  |  |  |
| --- | --- | --- |
| **Resource** | **Phases Needed** | **Reason** |
| Steering Committee (CEO & Board of Directors) | Initiation  Planning  Closing | Project Approval |
| Decision Makers (CEO & CIO) | Initiation  Planning  Monitoring and Controlling  Closing | Major Unforeseen Decision |
| Software Development Team | Execution  Monitoring and Controlling | Developing the Project, Monitoring and Controlling as needed |
| Marketing Team | Monitoring and Controlling | Advertising during the life of the project- launch date and beyond |
| Customer Service Team | Monitoring and controlling | Assisting customers during the life of the project- launch date and beyond |
| Managed hosting service | Execution  Monitoring and controlling | Needed service to be started before the project was built, during the build, and beyond |
| Audiobook streaming service | Execution  Monitoring and controlling | Needed service to be started before the project was built, during the build, and beyond |
| Cost for Audiobook streaming service | Execution  Monitoring and controlling | Needed service to be started before the project was built, during the build, and beyond |
| Cost for Managed Hosting Service | Execution  Monitoring and controlling | Needed service to be started before the project was built, during the build, and beyond |

Table 4 shows a Resource Allocation Plan which displays how the necessary resources were allocated for this project. The steering committee was involved during the initiation, planning, and closing phases. They were the ones who decided that a solution was needed and used their authority to designate the implementation of a solution. They needed to be involved in every major unforeseen decision, approval of the project plan, and the project closing. The Decision Makers, especially, Therese Parks, who had the proper authority to manage and implement the project, made decisions during every phase of the project lifecycle. The Software Development Team was needed for the Execution phase and the Monitoring and Controlling Phase. They were responsible for developing the project and monitoring and controlling it as needed during the build and after the build. The Marketing Team was involved during the Monitoring and Controlling phase. This was when the project was completed and ready to be launched. They were responsible for advertising the changes brought about by the project to customers. The Customer Service Team was involved during the Monitoring and Controlling phase. This was when the project was completed and ready to be launched. They were responsible for assisting customers during the life of the project, from the launch date and beyond. Finally, during the Execution and Monitoring and Controlling phases, the audiobook streaming service and the managed hosting provider, along with costs associated with these services were needed. These services were started before the project was built, during the build, and beyond the build, because the new web application depended on them.

## Implementation Project Milestones

**Table 5**

***Timeline with Milestones that Completed Phases***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Milestone (Deliverable)** | **Phase** | **Start Date** | **End Date** | **Date Deviations** |
| ***Deliverable* (Objective 5)** Research the best way to integrate the existing POS service into the new web application. | Planning | March 11, 2021 | March 19, 2021(Date Extended) | Yes  3 Days Longer  Ended  March 22, 2021 |
| ***Deliverable* (Objective 6)** Launch the new web application. | Execution | May 19, 2021 | May 26, 2021 | No |
| ***Deliverable* (Objective 6)** Cancel the service with the existing CMS provider. | Closing | May 26, 2021 | May 30, 2021 | No |
| ***Deliverable* (Objective 2)** Provide monthly surveys for customers to leave feedback about the new web application after it is launched. | Monitoring & Controlling | May 26, 2021 | May 30, 2021 | No |

The completion of important project milestones reached marked the completion of each project phase based on the implementation strategy. See Table 5. Completing the research of the best way to integrate the existing POS service into the new web application, marked the end of the *planning* phase and lasted from March 11, 2021, to March 22, 201. Launching the new web application marked the end of the *execution* phase and lasted from May 19, 2021, to May 26, 2021. Canceling the service with the existing CMS provider, marked the end of the *closing* phase and lasted from May 26, 2021, to May 30, 202. Providing monthly surveys for customers to leave feedback about the new web application after it is launched, marked the ending of the *monitoring and controlling* phase or at least that part of the phase before the next phase of testing, since monitoring and controlling lasts for the life of the web application.

## Project Deliverables

As a result of the completion and launch of Motivate, LLC’s new custom audiobook web application, the project is currently delivering the following:

* Dynamic access to audiobooks without the need to download
* A custom-coded web application as a lightweight option for front-end development
* A custom API that provides easy access to audiobook data from the web application
* The company’s server and API are being hosted by cloud services that deploy and scale the application dynamically according to the number of users.
* Audiobooks are being hosted with cutting-edge fast audiobook streaming services so that customers can listen to audiobooks on the go and from any device.
* A POS system integrated into the new web application so that customers can access account information and manage subscriptions
* A completed, live, fast-paced web application with no freezes or excessive slowing

## Documentation Deliverables

The Project Business Case is a kickoff document that provides justification for the project and explains the project’s reason, goals, objectives, and planned outcomes (Windsor, 2022). See Figure 1. The Risk and Issues Log logs risks and issues that arise. See Figure 2. The Project Communication Plan “ensures effective communication amongst the project team and stakeholders (2022)”. See Figure 3. The Project Schedule provides a timeline with start and end dates for deliverables. See Figure 4. Thus, the document deliverables that will be needed for this project are the Project Business Case, Risk and Issues Log, Project Communications Plan, and the Project Schedule (2022).

**Figure 1**

**Table

Description automatically generated*Image of Project Business Case***

The Project Business Case document deliverable shows a clear summary of the projects’ business strategy alignment. See Figure 1. It explains how the new audiobook web application would provide fast, cutting-edge, audiobook accessibility and project industry-standard specifications, which align with the company’s strategy.The document shows the solutions considered, which were not chosen as well as the selected solution, which was a custom audiobook web application with managed hosting and fast external audiobook streaming and hosting services. Benefits shown in the document are the project would increase customer satisfaction by 25%, cut web-application expenses by 50%, and decrease audiobook accessibility slowness and freezing by 90%. The document shows the costs which would total $1475/month, expected ROI of $200,000 by the third year, and risks, including the risk of choosing the wrong platform.

**Figure 2**

***A snippet of Project Risk and Issues Log***

|  |
| --- |
| ***Table  Description automatically generated*** |

The Risk and Issues Log document deliverable shows a description of each risk along with the type of risk, the date the risk or issue was raised, who it was raised by and who reported it, the priority of the risk, the level of severity, the status, and the closure date. See Figure 2. For example, for risk 02, the POS service could not provide a way to integrate their system into the new custom website. This was a high concern because it was a non-negotiable requirement for the project. The issue was raised on March 12 by Therese Parks who also reported it in the document, and it was closed by March 19, when a different POS service was chosen which allowed for the seamless integration of their POS system into the custom website.

**Figure 3**

***Image of Project Communication Plan***

|  |
| --- |
| ***Table  Description automatically generated*** |

The Project Communication Plan document deliverable identifies stakeholder group, how they needed to be communicated with and how often. See Figure 3. For example, The Software Development Team needed to be communicated with Daily via emails, and daily meetings.

**Figure 4**

***Snippet of Project Schedule***

|  |
| --- |
| ***Graphical user interface, application  Description automatically generated*** |

The Project Schedule document deliverable placed each deliverable in a certain time frame with start and end dates. See Figure 4. Some deliverables were in the same time frame as other deliverables. For example, Deliverable (Objective 6), Cancel the service with the existing CMS provider, and Deliverable (Objective 2), Provide monthly surveys for customers to leave feedback about the new web application after it is launched, both shared a start date of May 26, 2021, and end date of May 30, 2021.

# Formative Evaluation Results and Revisions

**Table 6**

***Examples of QA Metrics from the Quality Evaluation Document***

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Alignment | Deviation | Notes |
| Provide cutting-edge audiobook services that customers expect in a modern economy | Yes | None | A cutting-edge audiobook application has been provided with audiobook services that customers expect in a modern economy. |
| Increased customer satisfaction by 25% | Yes | None | Customer satisfaction rates increased and remained between 50-80% |
| Cut web application expenses by 50%. | Yes | None | Web application expenses have been decreased and remain more than 50% decreased. |
| Decreased audiobook accessibility slowness and freezing by 90% | Yes | None | Audiobook accessibility slowness and freezing have decreased and remained between 90-95%. |
| Integrate the existing point of sale (POS) system into the new web application | No | Yes. | The existing POS provider failed to provide an API to allow integration of the POS into the web application.  The company chose to use a new POS service which provided an API enabling the successful integration of the POS into the web application. |

***Alignments***

Data from the Quality Evaluation Document shows that the following metrics remained in line with the project’s goals and the company’s vision and business needs:

* A cutting-edge audiobook application has been provided with audiobook services that customers expect in a modern economy.
* Customer satisfaction rates increased and remained between 50-80%.
* Web application expenses have been decreased and remain more than 50% decreased.
* Audiobook accessibility slowness and freezing have decreased and remained between 90-95%.

***Deviations***

Data from the Quality Evaluation Document shows that the following metrics deviated from the project’s main goal, *to solve the current problem of an excessively slow-loading website and allow users to stream audiobooks directly from the website which will enhance the customer experience;* but it deviated from one of the deliverables, to *integrate the existing point of sale (POS) system into the new web application.* This reason was the existing POS provider failed to provide an API to allow integration of the POS into the web application. The company chose to use a new POS service which provided an API enabling the successful integration of the POS into the web application

**Summative Evaluation Plan and Results**

The expected outcomes of the project were, customer satisfaction rates increased by 25%, decreased web application expenses by 50%, and decreased accessibility slowness by 90%.

A summative evaluation was performed to help determine the lessons learned from the project and the deliverables were measured on how well they met the expected outcomes. “The objective is to document which behaviors helped determine, maintain, or increase quality standards, and which ones didn’t (Dixon, 1987)”. As a result of the completion and launch of Motivate, LLC’s new custom audiobook web application, deliverables that have been delivered and have been evaluated here are as follows:

1. Dynamic access to audiobooks without the need to download
2. A custom-coded web application as a lightweight option for front-end development
3. A custom API that provides easy access to audiobook data from the web application
4. The company’s server and API are being hosted by cloud services that deploy and scale the application dynamically according to the number of users.
5. Audiobooks are being hosted with cutting-edge fast audiobook streaming services so that customers can listen to audiobooks on the go and from any device.
6. A POS system integrated into the new web application so that customers can access account information and manage subscriptions
7. A completed, live, fast-paced web application with no freezes or excessive slowing

**Deliverable 1**

***Criteria***

* The first deliverable is dynamic access to audiobooks without the need to download

***Observation***

* According to customer reviews, some customers miss being able to download audiobooks so that they could listen to them offline. The current implementation only allows the live streaming of audiobooks and took away the ability for customers to download. However, customers are paying less and are not complaining too much about this issue.

***Ratings***

* Matched expected outcomes by at least 100% since customer ratings are between 50-80% increased.

**Deliverable 2**

***Criteria***

* The second deliverable is a custom-coded web application as a lightweight option for front-end development

***Observation***

* Using custom code was a lightweight option, but it took a lot more planning and detailed work compared to using a CMS. The payoff was speed, control, and flexibility.

***Ratings***

* Matched expected outcomes by at least 100% since audiobook accessibility and slowness have decreased by 90-95%
* Matched expected outcomes by at least 100% since web application expenses have decreased by more than 50%

**Deliverable 3**

***Criteria***

* The third deliverable is a custom API that provides easy access to audiobook data from the web application

***Observation***

* Choosing to use a custom API enabled the development to bring the backend and front-end parts of the application together in a unified design and flow.

***Ratings***

* Matched expected outcomes by at least 100% audiobook accessibility and slowness have decreased by 90-95%.

**Deliverable 4**

***Criteria***

* The fourth deliverable is the company’s server and API are being hosted by cloud services that deploy and scale the application dynamically according to the number of users.

***Observation***

* Choosing managed services helped to provide that bandwidth flexibility that the application needed for customers to experience a fast, cutting-edge modern web application.

***Ratings***

* Matched expected outcomes by at least 100% audiobook accessibility and slowness have decreased by 90-95%
* Matched expected outcomes by at least 100% since web application expenses have decreased by more than 50%

**Deliverable 5**

***Criteria***

* The fifth deliverable is audiobooks are being hosted with cutting-edge fast audiobook streaming services so that customers can listen to audiobooks on the go and from any device.

***Observation***

* A modern, user-friendly web application has enabled customers to have quick access to audiobooks from any device.

***Ratings***

* Matched expected outcomes by at least 100% since customer ratings are between 50-80% increased.
* Matched expected outcomes by at least 100% since audiobook accessibility and slowness have decreased by 90-95%
* Matched expected outcomes by at least 100% since web application expenses have decreased by more than 50%

**Deliverable 6**

***Criteria***

* The sixth deliverable is a POS system integrated into the new web application so that customers can access account information and manage subscriptions

***Observation***

* Planning the POS solution took an extra 3 days since the old POS provider did not provide a way to integrate the POS system into custom code. Therefore a new POS service was chosen and the integration was successful.

***Ratings***

* Matched expected outcomes by at least 100% since customer ratings are between 50-80% increased.

**Deliverable 7**

***Criteria***

* The seventh deliverable is a completed, live, fast-paced web application with no freezes or excessive slowing

***Observation***

* The web application is working as expected with great customer feedback.

***Ratings***

* Matched expected outcomes by at least 100% since customer ratings are between 50-80% increased.
* Matched expected outcomes by at least 100% since audiobook accessibility and slowness have decreased by 90-95%
* Matched expected outcomes by at least 100% since web application expenses have decreased by more than 50%

# Stakeholder Communication Plan and Reports

This section discusses the communication plan, for each stakeholder group that was used during the project implementation. See Figure 5.

**Figure 5**

***Table

Description automatically generatedCommunication Plan***

**Steering Committee**

Steering committee members needed to be regularly informed of the project status and reassured that the endeavor was in line with the company’s vision and goals. Although I was designated by the CEO and Board of Directors to plan and manage the implementation of the solution, it was part of the responsibility held by the CEO to manage the company and the Board of Directors. Therefore, she was interested in the pursuit of goals that were meant to drive the company forward and it was the responsibility of the Board of Directors to counsel the CEO and help her reach those goals by advice and actions steps. Thus, I regularly updated them about the progress of the project and consulted on any major unforeseen issues that arose during the project implementation. See Figure 5.

***The POS Decision***

For example, an unforeseen issue arose during the planning phase when we discovered that the current POS provider did not provide a way to integrate their POS system into the custom web application. I consulted with the steering committee concerning this issue, and it was decided that a new POS provider should be chosen. I updated the steering committee weekly at a minimum, at major milestones, and per major decisions through the communication means of emails and meetings. See Figure 5 for the frequency and methods of communication for the steering committee.

**Decision Makers**

I held the responsibility of regularly informing the CEO of the project status and reassuring her that the endeavor was in line with the company’s vision and goals. Although I had been designated to plan and manage the implementation of the solution, as part of the responsibility held by the CEO who manages the company and the Board of Directors, who is interested in the pursuit of goals that are meant to drive the company forward, she needed to be regularly updated about the progress of the project and consulted on any major unforeseen issues that arose during the project implementation. Thus, I updated the CEO weekly at a minimum, at major milestones, and per major decisions through the communication means of emails and meetings. See Figure 5.

**Project Manager and Sponsor**

As the Project Manager and Sponsor, I was responsible for managing the project and keeping each stakeholder group appropriately informed*.*

**Software Development Team**

The software development team needed to be given clear instructions on what was expected of them so that they could develop the project accordingly. With the responsibilities of being actively involved in the development and building of the project, I communicated with the team daily through meetings and emails. This way, I was able to keep track of the status of each part of the project which they were working on and confirm and communicate instructions as needed. See Figure 5.

**Marketing Team**

The marketing team was kept up to date as project deliverables are completed along with the date and time of the project launch. They needed to take this information and use it for advertising and communicating with customers. With the responsibilities of informing the public, I updated the team at major project milestones through meetings and emails. Communication was directed to the Director of Marketing, Paul Jones, who informed his team accordingly. See Figure 5.

**Customer Service Team**

The customer service team needed to be kept up to date with the project status so that they could inform customers who would like to know. I updated the customer service team at major project milestones via emails and meetings. Communication was directed to the Director of Customer Service, Janette Osteen, who informed her team accordingly. See Figure 5.

**The Customers**

Customers were informed about the coming changes and provided information to help them transition smoothly to the new web application. They were informed by the marketing team who notified the customers once the new application was launched and was given 2 months to switch over to the new application. Customers were assisted during the transition from the old to the new app by the customer service team, and throughout the life of the project. See Figure 5.

**Service Providers**

The hosting service providers included the audiobook streaming service and the hosting service provider for the website and database. They were responsible for providing services and needed to be properly communicated with so that they could know the company’s needs and expectations. I communicated with them during the negation or start of service, and monthly or as needed via emails and phone conversations since these service providers were remote. See Figure 5.

# Ongoing Support and Maintenance

As a result of the completion and launch of Motivate, LLC’s new custom audiobook web application, deliverables that are being delivered are as follows:

1. Dynamic access to audiobooks without the need to download
2. A custom-coded web application as a lightweight option for front-end development
3. A custom API that provides easy access to audiobook data from the web application
4. The company’s server and API are being hosted by cloud services that deploy and scale the application dynamically according to the number of users.
5. Audiobooks are being hosted with cutting-edge fast audiobook streaming services so that customers can listen to audiobooks on the go and from any device.
6. A POS system integrated into the new web application so that customers can access account information and manage subscriptions
7. A completed, live, fast-paced web application with no freezes or excessive slowing

**Table 7**

***Ongoing Support and Maintenance Plan***

|  |  |  |  |
| --- | --- | --- | --- |
| **Deliverable** | **Support Needed** | **Interval** | **Next Due Date** |
| 1. Dynamic access to audiobooks without the need to download | Monitoring of audiobook streaming account metrics to ensure speed is optimal. | Weekly | March 14, 2022 |
| 1. A custom-coded web application as a lightweight option for front-end development | Monitoring of web application performance metrics to ensure functionality is optimal.  Update software if needed. | Monthly | April 1, 2022 |
| 1. A custom API that provides easy access to audiobook data from the web application | Monitoring of custom API performance metrics to ensure functionality is optimal.  Update software if needed. | Monthly | April 1, 2022 |
| 1. The company’s server and API are being hosted by cloud services that deploy and scale the application dynamically according to the number of users. | Checking in on managed cloud services accounts metrics to ensure speed and functionality are optimal. | Monthly | April 1, 2022 |
| 1. Audiobooks are being hosted with cutting-edge fast audiobook streaming services so that customers can listen to audiobooks on the go and from any device. | Monitoring of audiobook streaming account metrics to ensure speed is optimal. | Monthly | April 1, 2022 |
| 1. A POS system integrated into the new web application so that customers can access account information and manage subscriptions | Checking in POS service accounts metrics to ensure functionality is optimal. | Monthly | April 1, 2022 |
| 1. A completed, live, fast-paced web application with no freezes or excessive slowing | Monitoring of web application performance metrics to ensure functionality is optimal.  Monitoring of audiobook streaming account metrics to ensure speed is optimal.  Update software if needed. | Monthly | April 1, 2022 |

A plan for ongoing support and maintenance has been set in place to ensure that the project is updated and functioning optimally. See Table 7. These deliverables are included in the Support and Maintenance Plan:

1. Dynamic access to all audiobooks without the need to download will be supported by monitoring audiobook streaming account metrics to ensure that speed is optimal. This will happen at weekly intervals and the next support date is March 14, 2022.
2. A custom-coded web application as a lightweight option for front-end development will be supported by monitoring web application performance metrics to ensure functionality is optimal and software updates if needed. This will happen at monthly intervals and the next support date is April 1, 2022.
3. A custom API that provides easy access to audiobook data from the web application will be supported by monitoring of custom API performance metrics to ensure functionality is optimal, and software updates if needed. This will happen at monthly intervals and the next support date is April 1, 2022.
4. The company’s server and API are being hosted by cloud services that deploy and scale the application dynamically according to the number of users will be supported by checking in on managed cloud services accounts metrics to ensure speed and functionality are optimal. This will happen at monthly intervals and the next support date is April 1, 2022.
5. Audiobooks are being hosted with cutting-edge fast audiobook streaming services so that customers can listen to audiobooks on the go and from any device will be supported by monitoring of audiobook streaming account metrics to ensure speed is optimal. This will happen at monthly intervals and the next support date is April 1, 2022.
6. A POS system integrated into the new web application so that customers can access account information and manage subscriptions will be supported by Checking in POS service accounts metrics to ensure functionality is optimal. This will happen at monthly intervals and the next support date is April 1, 2022.
7. A completed, live, fast-paced web application with no freezes or excessive slowing will be supported by monitoring of web application performance metrics to ensure functionality is optimal, monitoring of audiobook streaming account metrics to ensure speed is optimal and Updating software if needed. This will happen at monthly intervals and the next support date is April 1, 2022.

**Resources for Post-Implementation Support**

**Table 8**

**Resources Needed for Ongoing Maintenance and Support**

|  |  |  |  |
| --- | --- | --- | --- |
| **Deliverable** | **Support Needed** | **Resources Needed** | **Special Requirements** |
| 1. Dynamic access to audiobooks without the need to download | Monitoring of audiobook streaming account metrics to ensure speed is optimal. | Software Development Team | No Special Requirements because this is an in-house development team that maintains projects as part of their regular duties. |
| 1. A custom-coded web application as a lightweight option for front-end development | Monitoring of web application performance metrics to ensure functionality is optimal.  Update software if needed. | Software Development Team | No Special Requirements because this is an in-house development team that maintains projects as part of their regular duties. |
| 1. A custom API that provides easy access to audiobook data from the web application | Monitoring of custom API performance metrics to ensure functionality is optimal.  Update software if needed. | Software Development Team | No Special Requirements because this is an in-house development team that maintains projects as part of their regular duties. |
| 1. The company’s server and API are being hosted by cloud services that deploy and scale the application dynamically according to the number of users. | Checking in on managed cloud services accounts metrics to ensure speed and functionality are optimal. | Software Development Team | No Special Requirements because this is an in-house development team that maintains projects as part of their regular duties. |
| 1. Audiobooks are being hosted with cutting-edge fast audiobook streaming services so that customers can listen to audiobooks on the go and from any device. | Monitoring of audiobook streaming account metrics to ensure speed is optimal. | Software Development Team | No Special Requirements because this is an in-house development team that maintains projects as part of their regular duties. |
| 1. A POS system integrated into the new web application so that customers can access account information and manage subscriptions | Checking in POS service accounts metrics to ensure functionality is optimal. | Software Development Team | No Special Requirements because this is an in-house development team that maintains projects as part of their regular duties. |
| 1. A completed, live, fast-paced web application with no freezes or excessive slowing | Monitoring of web application performance metrics to ensure functionality is optimal.  Monitoring of audiobook streaming account metrics to ensure speed is optimal.  Update software if needed. | Software Development Team | No Special Requirements because this is an in-house development team that maintains projects as part of their regular duties. |

The software development team will be needed for the ongoing support and maintenance of the project. The extra funding will not be needed because the development team consists of company employees who perform project maintenance as part of their regular duties, and their salaries remain the same whether a project is being implemented. See Table 8.

**Short-Term and Long-Term Maintenance Plan**

**Table 9**

***Ongoing Short-Term and Long-Term Support and Maintenance Plan***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Deliverable** | **Support Needed** | **Short Term Interval** | **Next Due Date** | **Long Term** |
| 1. Dynamic access to audiobooks without the need to download | Monitoring of audiobook streaming account metrics to ensure speed is optimal. | Weekly | March 14, 2022 | 3 years from the launch date on March 30, 2024 |
| 1. A custom-coded web application as a lightweight option for front-end development | Monitoring of web application performance metrics to ensure functionality is optimal.  Update software if needed. | Monthly | April 1, 2022 | 3 years from the launch date on March 30, 2024 |
| 1. A custom API that provides easy access to audiobook data from the web application | Monitoring of custom API performance metrics to ensure functionality is optimal.  Update software if needed. | Monthly | April 1, 2022 | 3 years from the launch date on March 30, 2024 |
| 1. The company’s server and API are being hosted by cloud services that deploy and scale the application dynamically according to the number of users. | Checking in on managed cloud services accounts metrics to ensure speed and functionality are optimal. | Monthly | April 1, 2022 | 3 years from the launch date on March 30, 2024 |
| 1. Audiobooks are being hosted with cutting-edge fast audiobook streaming services so that customers can listen to audiobooks on the go and from any device. | Monitoring of audiobook streaming account metrics to ensure speed is optimal. | Monthly | April 1, 2022 | 3 years from the launch date on March 30, 2024 |
| 1. A POS system integrated into the new web application so that customers can access account information and manage subscriptions | Checking in POS service accounts metrics to ensure functionality is optimal. | Monthly | April 1, 2022 | 3 years from the launch date on March 30, 2024 |
| 1. A completed, live, fast-paced web application with no freezes or excessive slowing | Monitoring of web application performance metrics to ensure functionality is optimal.  Monitoring of audiobook streaming account metrics to ensure speed is optimal.  Update software if needed. | Monthly | April 1, 2022 | 3 years from the launch date on March 30, 2024 |

A plan for ongoing support and maintenance has been set in place to ensure that the project is updated and functioning optimally. See Table 8. According to the Business Case Document (See Figure 1), the company planned the expected ROI from the project for the next 3 years. For the next three years until March 30, 2024, the software development team will continue to provide short-term maintenance and support as shown in Table 9. These deliverables are included in the short-term Support and Maintenance Plan:

1. Dynamic access to all audiobooks without the need to download will be supported by monitoring audiobook streaming account metrics to ensure that speed is optimal. This will happen at weekly intervals for the next three years until March 30, 2024, and the next support date is March 14, 2022.
2. A custom-coded web application as a lightweight option for front-end development will be supported by monitoring web application performance metrics to ensure functionality is optimal and software updates if needed. This will happen at monthly intervals for the next three years until March 30, 2024, and the next support date is April 1, 2022.
3. A custom API that provides easy access to audiobook data from the web application will be supported by monitoring of custom API performance metrics to ensure functionality is optimal, and software updates if needed. This will happen at monthly intervals for the next three years until March 30, 2024, and the next support date is April 1, 2022.
4. The company’s server and API are being hosted by cloud services that deploy and scale the application dynamically according to the number of users will be supported by checking in on managed cloud services accounts metrics to ensure speed and functionality are optimal. This will happen at monthly intervals for the next three years until March 30, 2024, and the next support date is April 1, 2022.
5. Audiobooks are being hosted with cutting-edge fast audiobook streaming services so that customers can listen to audiobooks on the go and from any device will be supported by monitoring of audiobook streaming account metrics to ensure speed is optimal. This will happen at monthly intervals for the next three years until March 30, 2024, and the next support date is April 1, 2022.
6. A POS system integrated into the new web application so that customers can access account information and manage subscriptions will be supported by Checking in POS service accounts metrics to ensure functionality is optimal. This will happen at monthly intervals for the next three years until March 30, 2024, and the next support date is April 1, 2022.
7. A completed, live, fast-paced web application with no freezes or excessive slowing will be supported by monitoring of web application performance metrics to ensure functionality is optimal, monitoring of audiobook streaming account metrics to ensure speed is optimal and Updating software if needed. This will happen at monthly intervals for the next three years until March 30, 2024, and the next support date is April 1, 2022.

# Post-Implementation Project Summary

The purpose of the approved solution, a *customized audiobook-streaming web application*, was to solve the problem of an excessively slow-loading website and allow users to stream audiobooks directly from the website which would enhance the customer experience. The custom audiobook web application solved the problem of a slow-loading website experience, and a fast modern web application was created that customers can access from any device. Customers can access all audiobooks with a monthly subscription, taking the old problem away of the website bandwidth being taken up from customers downloading audiobooks.

Since the project launch, the metrics that were used to measure the proposed and actual outcomes of the project were percentages of an increase in customer satisfaction, a decrease in audiobook accessibility slowness and freezing, and a cut in web application expenses. The expected percentages were an increase in customer satisfaction by 25%, a cut in web application expenses by 50%, and a decrease in audiobooks accessibility slowness and freezing by 90%. The project was completed in 5 phases according to the SDLC iterative approach and the phases included planning, executing, monitoring plus controlling, and closing. In observation, the planned outcomes were met and exceeded since customer satisfaction rates increased and remained between 50-80%., web application expenses have been decreased and remain more than 50% decreased, audiobook accessibility slowness and freezing have decreased, and remained between 90-95%. Formative and summative evaluations show that the project was considered successful.

**Documentation Deliverables**

The Project Business Case is a kickoff document that provides justification for the project and explains the project’s reason, goals, objectives, and planned outcomes (Windsor, 2022). See Figure 1. The Risk and Issues Log logs risks and issues that arise. See Figure 2. The Project Communication Plan “ensures effective communication amongst the project team and stakeholders (2022)”. See Figure 3. The Project Schedule provides a timeline with start and end dates for deliverables. See Figure 4. Thus, the document deliverables that will be needed for this project are the Project Business Case, Risk and Issues Log, Project Communications Plan, and the Project Schedule (2022).

**Figure 1**

***Image of Project Business Case***

|  |
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The Project Business Case document deliverable shows a clear summary of the projects’ business strategy alignment. See Figure 1. It explains how the new audiobook web application would provide fast, cutting-edge, audiobook accessibility and project industry-standard specifications, which align with the company’s strategy.The document shows the solutions considered, which were not chosen as well as the selected solution, which was a custom audiobook web application with managed hosting and fast external audiobook streaming and hosting services. Benefits shown in the document are the project would increase customer satisfaction by 25%, cut web-application expenses by 50%, and decrease audiobook accessibility slowness and freezing by 90%. The document shows the costs which would total $1475/month, expected ROI of $200,000 by the third year, and risks, including the risk of choosing the wrong platform.

**Figure 2**

***Snippet of Project Risk and Issues Log***

|  |
| --- |
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The Risk and Issues Log document deliverable shows a description of each risk along with the type of risk, the date the risk or issue was raised, who it was raised by and who reported it, the priority of the risk, the level of severity, the status, and the closure date. See Figure 2. For example, for risk 02, the POS service could not provide a way to integrate their system into the new custom website. This was a high concern because it was a non-negotiable requirement for the project. The issue was raised on March 12 by Therese Parks who also reported it in the document, and it was closed by March 19, when a different POS service was chosen which allowed for the seamless integration of their POS system into the custom website.

**Figure 3**

***Image of Project Communication Plan***

|  |
| --- |
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The Project Communication Plan document deliverable identifies stakeholder group, how they needed to be communicated with and how often. See Figure 3. For example, The Software Development Team needed to be communicated with Daily via emails, and daily meetings.

**Figure 4**

***A snippet of the Project Schedule***

|  |
| --- |
| ***Graphical user interface, application  Description automatically generated*** |

The Project Schedule document deliverable placed each deliverable in a certain time frame with start and end dates. See Figure 4. Some deliverables were in the same time frame as other deliverables. For example, Deliverable (Objective 6), Cancel the service with the existing CMS provider, and Deliverable (Objective 2), Provide monthly surveys for customers to leave feedback about the new web application after it is launched, both shared a start date of May 26, 2021, and end date of May 30, 2021.

**Success Criteria for Each Project Outcome**

Evaluation for this project was practiced according to a results-based evaluation framework that included *ongoing monitoring* to identify and highlight problems as they emerged, *regular monitoring to* analyze issues and suggest follow-up measures, and *monitoring* at *specific times* of the project life to review the whole strategy and recommend adjustments (Gumz & Parth, 2007). The project’s success was evaluated based on 3 main metrics or proposed outcomes including increased customer satisfaction by 25%, fewer web application expenses by 50%.

and decreased audiobook accessibility slowness and freezing by 90%.

If the outcomes matched or exceeded these percentages, then the project was considered successful, if it fell below these percentages then the project’s success would need to be re-evaluated. As a result, customer satisfaction rates increased and remained between 50-80%; web application expenses have been decreased and remain more than 50% decreased, and audiobook accessibility slowness and freezing have decreased and remained between 90-95%. Thus, the project can be considered successful.

**Justification of Proposed versus Actual Project Outcomes**

***Proposed Outcomes***

The proposed project outcomes were:

* Increased customer satisfaction by 25%.
* Cut web application expenses by 50%.
* Decreased audiobook accessibility slowness and freezing by 90%.

***A Deviation***

Data from the Quality Evaluation Document shows that the following metrics deviated from the project’s main goal, *to solve the current problem of an excessively slow-loading website and allow users to stream audiobooks directly from the website which will enhance the customer experience;* but it deviated from one of the deliverables, to *integrate the existing point of sale (POS) system into the new web application.* This reason was the existing POS provider failed to provide an API to allow integration of the POS into the web application. The company chose to use a new POS service which provided an API enabling the successful integration of the POS into the web application. This deviation did not affect the project outcomes.

***Actual Outcomes***

The actual project outcomes included customer satisfaction rates that increased and remained between 50-80%; web application expenses that have been decreased and remain more than 50% decreased, and audiobook accessibility slowness and freezing that have decreased and remained between 90-95%. Thus, the project can be considered successful.

**Lessons Learned**

According to customer reviews, some customers miss being able to download audiobooks so that they could listen to them offline. The current implementation only allows the live streaming of audiobooks and took away the ability for customers to download. However, customers are paying less and are not complaining too much about this issue. Using custom code was a lightweight option, but it took a lot more planning and detailed work compared to using a CMS. The payoff was speed, control, and flexibility. Choosing to use a custom API enabled the development to bring the backend and front-end parts of the application together in a unified design and flow. Choosing managed services helped to provide that bandwidth flexibility that the application needed for customers to experience a fast, cutting-edge modern web application. A modern, user-friendly web application has enabled customers to have quick access to audiobooks from any device. Planning the POS solution took an extra 3 days since the old POS provider did not provide a way to integrate the POS system into custom code. Therefore, a new POS service was chosen, and the integration was successful.The web application is working as expected with great customer feedback.

***Lessons That May Help Future Projects***

Knowing that the customers liked the download feature and missed it when we took it away is helpful because then we can use this information to decide what we can do to bring the download feature back in the future. Whether it is creating a mobile app that allows the download feature, adding it to the website, or both, the customers will appreciate it.

***Project Successes***

The project successes include matched expected outcomes by at least 100% since customer ratings were between 50-80% increased, matched expected outcomes by at least 100% since audiobook accessibility and slowness have decreased by 90-95%, and matched expected outcomes by at least 100% since web application expenses have decreased by more than 50%.

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