PROJECT DOCUMENTATION

**End Project Report**

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| --- | --- |
| **Project:** | **Business Management System for Lanka Tools (Pvt) Ltd** |
| Release: | August 2022 |
| Date: | 27th August 2022 |
|  |  |
| **PRINCE 2** |  |
|  |  |
| Author: | Bhathiya Kannangara (Project Manager) |
|  |  |
| Owner: | Dr. Yasas Yajaweera (Project Executive) |
| Client: | Lanka Tools (Pvt) Ltd by Mr A.H Athaf |
| Document Ref: | ProjectEndReport\_SmartBMS |
| Version No: | 1.0 |

# 1 End Project Report History

## 1.1 Document Location

This document is only valid on the day it was printed.

The source of the document will be found on the project's PC in location

## 1.2 Revision History

**Date of this revision: 08/27/2022**

**Date of Next revision:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Revision date** | **Previous revision date** | **Summary of Changes** | **Changes marked** |
| 08/27/2022 |  | First Issue |  |

## 1.3 Approvals

This document requires the following approvals.

Signed approval forms are filed in the Management/Specialist/Quality section of the project files.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Signature** | **Title** | **Date of Issue** | **Version** |
| Dr Yasas Jayaweera |  | Project Executive | 08/27/2022 | 1.0 |
| Bhathiya Kannangara |  | Project Manager | 08/27/2022 | 1.0 |
| Lanka Tools (PVT) Ltd. |  | Client | 08/27/2022 | 1.0 |

## 1.4 Distribution

This document has been distributed to:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Title** | **Date of Issue** | **Version** |
| Bhathiya Kannangara | Project Manager | 08/27/2022 | 1.0 |
| Imanka Jayasiriwardana | Start-up Manager | 08/27/2022 | 1.0 |
| Uthpala Rajapaksha | Risk Manager | 08/27/2022 | 1.0 |
| Ruwanthi Naramperuma | Scheduling Manager | 08/27/2022 | 1.0 |
| Layan Perera | Quality Manager | 08/27/2022 | 1.0 |

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# Project End Report

## 2.1 Project Manager’s Report

**Name of the project:** SmartBMS -Business management system for Lanka Tools (Pvt) Ltd

**Client Information:**

Name **:** H.F Athaf

Address **:** No 24/3, Kandy, Sri Lanka

Email **:** fazil.athaf@gmail.com

**Project management team:**

Bhathiya Kannangara : Project Manager

Imanka Jayasiriwardana : Start-up Manager

Ruwanthi Narampanawa : Scheduling Manager

Layan Perera : Quality Manager

Uthpala Rajapaksha : Risk Manager

**Project management group :** Group 28

**Project start date :** 29th June 2022

**Project end date :** 30th August 2022

**Total budget :** LKR 227,800.00 (Breakdown provided in Business Case)

**Product’s performance:**

Lanka Tools (Pvt) Ltd Kandy Owned by Mr. H.F Athaf and this is a large-scale business organization which includes wholesale, retail dealer on constructions tools and Heavy vehicle renting which are distributed among 5 branches. To scale up the business operation while centralizing the whole operation sustaining with technology advancement, system was developed which allows to log and monitor Employee attendance, employee roster, cash advances and manage payroll. The final system was tested and reviewed to ensure that all the client's capabilities were implemented successfully.

The System requirement of the client;

***Admin:***

* Login to the system
* Add Employees
* View Employees
* Delete Employees
* Update Employees
* Add Schedule for employees
* Edit Schedule for employees
* View & manage Budgets
* View & Manage Hourly rates
* View & Manage Salary scales
* Add & manage Cash advances
* View & manage Salaries
* Add & Manage Attendance
* View Attendance History
* View and Print Pay slips
* View Salary History
* Report Generation

***Employee***

* Add Attendance (In & Out)

**Project Scope:**

By eliminating the need of manual paper based business operation, the suggested system would assist users in maintaining the employee profiles, attendance, leaves, cash advances and Payroll. The ultimate result will be an easy-to-use business management system that helps users to manage their operation digitally. The system and transactions will be more productive, efficient, and time-saving by using new technology, plugins and SMPP integrations which used to Generate PDF and send Emails.

## 2.2 Review of the Business Case

System was developed to eliminate the need of manual paper based business operation and provide better visibility of the business operation to the management. The ultimate result will be an easy-to-use business management system that helps users to manage their operation digitally.

Expected benefits:

* Paper less operation ( Payslip printing and Attendance log)
* 100% Visibility of the business operation
* Visibility on the cash flow related to Salaries
* Tracking of the Employee attendance
* Tracking of the Employee Cash Advances
* Better support for management decisions related to employees
* Strengthens data quality
* Centralized system for business operation

Although project holds advantages it also carries some risks which are associated with various system and personal aspects, such as schedule variations, customer and business requirement fulfilment, deadlines and scope creeps etc.

* Scope creep
* Cost and Budget estimation issues
* Conflict between team members
* Overloading workload of the Team
* Technical issues
* Island wide electricity failures
* Turnover of stakeholders

Complete elaboration of risk factors, mitigation plans, risk statuses are in the risk log.

## 2.3 Benefits achieved to date

Following are the benefits have been achieved up to date.

* Increased Quality and security of data
* Reduced the paper cost for the company
* Improved efficiency of the employees attendance
* Improved cash flow visibility
* Improved management of Employee roster

## 2.4 Residual benefits expected

Following are the post project residual benefits

* Reduce the workload of the manual attendance logging
* Gives the benefits to the overall organisation
* Secure the important information of the Employee and Organization.
* Digitalization of the manual work

## 2.5 Expected net benefits

* Increase the precision of the organization and Employees
* Reduce the additional expenses for the papers and other stationaries
* Increase the accuracy of the employee attendance

## 2.6 Review of Project Objectives

An overview of the project's goals, quality standards, constraints, and risks is given in this part. This section also examines how well the project's methods were put into practice.

**Objectives:**

* To deliver a successfully running Business Management system with all the specified client requirements.
* To identify and evaluate the existing system for existing system and their drawbacks.
* To develop Employee and payroll, rent and inventory management system
* To create user friendly User interfaces
* To create effective centralized database for the system.
* To provide the user requirement documentation.

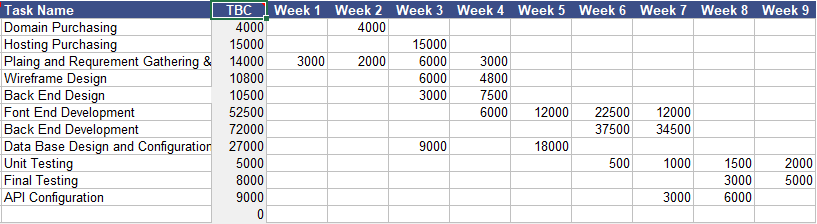
**Quality Expectations:**

Following are the software quality attributes which are discussed through developer productivity, elegance, usability, security, reliability, performance, scalability, testability, interoperability, transparency, and troubleshooting.

* **Usability –** The system should be created and built according to the specifications and restrictions determined throughout the review process. All interactions should be tested in various scenarios, including those that are unusual. Check to see if the system can consistently produce the desired results. The system should be simple to use and navigate without lagging. Even someone with minimal technical understanding should be able to access and navigate the system.
* **Reliability –** The system's reliability derives from the usability mentioned above. The system should always give accurate information. There shouldn’t be discrepancies between what’s shown to the user and what is actually recorded in the database.
* **Learnability –** With minimum computer literacy, any user should be able to operate the system.
* **Maintainability –** It should be hassle-free to troubleshoot issues and modify or extend the website's functionalities. Admin should be able to rapidly and efficiently create, read, update and delete data.
* **Functionality –** Ensuring the functionalities of business processes, editing related data and attributes from the admin panel.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Expense | Description | Basics | Unit | Rate | Total |
| Set up configuration charges | | | | | |
| **Domain Purchasing** | Domain Registration | Per Year | 1 | 4000 | 4000 |
| **Web Hosting** | Purchase shared hosting to host Application and DB | Per Year | 1 | 15000 | 15000 |
| Project Planning | | | | | |
| **Gather Requirements** | Gather details regarding the existing system/Business Processes and the requirements for the new system | Hourly | 4 | 1500 | 6000 |
| **Other Expenses** | Internet charges/Printouts Other | Hourly | 1 | 8000 | 8000 |
| Development | | | | | |
| **Create Wireframes (Front end)** | Sketch and finalize the User Interfaces | Hourly | 9 | 1200 | 10800 |
| **Design back end** | Design the backend workflow | Hourly | 7 | 1500 | 10500 |
| **Frontend Implementation** | Developing the wireframes into final user interfaces. | Hourly | 35 | 1500 | 52500 |
| **Backend Implementation** | Implementing/Creating Backend functionalities | Hourly | 48 | 1500 | 72000 |
| **Design /Create and Implement the Database** | Develop a proper and secure database for the project | Hourly | 18 | 1500 | 27000 |
| Testing | | | | | |
| **Unit Testing** | Test each and every part specifically when finished. | Hourly | 5 | 1000 | 5000 |
| **Final testing** | Perform the final testing of the whole developed system | Hourly | 8 | 1000 | 8000 |
| Setup of the System | | | | | |
| **Multiple API Usage** | Using of separate APIs to perform tasks | No of APIs | 3 | 3000 | 9000 |
| **Total** | | | | | **227,800/=** |

Weekly Expense breakdown as follows;



**Risks:** Within the latest version of the Risk Log, a full description of the risks associated withthe project is available.

**Review:**

All the anticipated risks were minimised or resolved, and the project was successfully completed.

**Scope:**

The project's goal was to design a Business management system for Lanka tools pvt LTD. The team and the project board undertook conversations to ensure that the chosen project was sufficiently sophisticated and manageable development time. The project board instructed the team to ensure that the project's reach was sufficient within the time range. The project board's instructions allowed the team to implement so that students could learn new languages and techniques.

**Benefits:**

The benefits achieved from the project vary for each member of the group.

**Bhathiya Kannangara (Project Manager)**

The project manager benefited greatly from the opportunity to work in a collaborative environment with a strong sense of camaraderie. He has gained the ability to keep all members informed about the project's progress by holding frequent stand-ups on WhatsApp to get updates on each member's progress and the next steps. In addition, the project manager improved abilities like planning and organising roles within the team to continue good work and accomplish end goals. Aside from that, the project manager tightened up cost and complexity management. This project was completed on a minimal budget with a reasonable scope that was both doable and acceptable. In addition, the project manager honed his skills to handle disagreements that arose within a team in the implementation of innovative ideas and progress. When working in an industrial environment, such additional capabilities will be helpful to the project manager.

**Imanka Jayasiriwardana (Start-up Manager)**

Having people skills is one of the most important skills in the corporate world. Specially being the intermediary party between the client and the rest of the team is not an easy task. The start-up manager skilfully handled this tough job, without causing any problems whatsoever. Even with the client being from another generation, and less tech savvy, the start up manager managed to handle it without breaking a sweat. This would be a highly beneficial skill in the job market, because it’s really hard to handle clients like this, without losing your patience. Other than that, she was really skillful in preparing documents such as the user guide, which captured all the details while making it understandable to anyone who knows how to use a computer. Which is another skill that will be highly valuable in the job market.

**Ruwanthi Narampanawa (Scheduling Manager)**

During the project's execution, the scheduling manager gained several advantages. The opportunity to cooperate in teams with distinct duties for each member increased the most during this project. Another key advance was time management, which was established by managing project progress over a certain period. As a result, the writer improved her communication and coordination abilities. As a result, she ensured that the final aim was met. Because exact judgments had to be made before finishing the project's timetable, dividing activities among team members, and arranging the order for the components to be built, the scheduling manager's strategy and decision-making talents improved.

**Layan Perera (Quality Manager)**

As the project's quality manager, he had to work on different test methodologies and tools to learn about them while completing the project's QA obligations. The quality manager double-checked all of the documents to ensure that they were of high quality. As a result, the quality manager has the necessary expertise to maintain high quality. Selenium was used to complete the system's final testing. He also evaluated the project's risks and created the relevant risk management documentation. The QA demonstrated working as part of a team and managing time while collaborating with other team members to complete given tasks.

**Uthpala Rajapaksha (Risk Manager)**

Getting experience in identifying and planning for risks to be mitigated was one of the main benefits for the risk manager. This would be a valuable skill to have in the workforce since every project will have issues and risks. Especially with the current turmoil happening in the country, the skills of the risk manager were battle-tested, and the risk manager performed quite admirably, minimising the risks, even when there were 13-hour power cuts in various regions at various times, greatly minimising the window of time where the whole team could work together. In addition to that, working as one of the three developers of the project, he managed to complete the project in an elegant manner, which would greatly showcase his skills in the job market.

## 2.7 Review of Team Performance

**Bhathiya Kannangara (Project Manager)**

**Imanka Jayasiriwardana (Start-up Manager)**

**Ruwanthi Narampanawa (Scheduling Manager)**

**Layan Perera (Quality Manager)**

**Uthpala Rajapaksha (Risk Manager)**

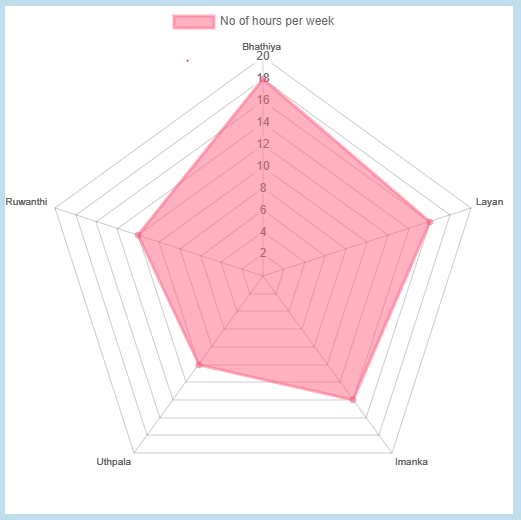


Figure 1: Measurement of Effort

## 2.8 Lessons Learned Report

“Lessons Learned Report version 01” document is uploaded to the project's GitHub repository for documents (https://github.com/justpbk/SPPM) and it should be located in the Week 8 folder.

## 2.9 Review of Products

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Product Name** | **Quality Records** | | **Approval Records** | **Off-specifications** |
| **Planned** | **Completed** |
| Project Prototype | 12/8/2022 | 12/8/2022 | - | - |
| Finalised Software | 22/8/2022 | 22/8/2022 | Product Demonstration | - |
| User Manual | 25/8/2022 | In progress | Product Demonstration & UAT | - |

## 2.10 Project Product Handover

Refer to the Client Acceptance Letter. “Client Acceptance Letter” document is uploaded to the project's GitHub repository for documents (https://github.com/ justpbk/SPPM) and it should be located in the Week 1 folder