

1. Overview

The **Daikibo Telemetry Monitoring** project will primarily feature *ease-of-access* and *ease-of-use*. The end-user will not be burdened by relentless training. The Daikibo factories will be controlled at the click of a few virtual buttons. This is also referred to as the *Internet of Things (IoT)*. The Daikibo project will be two-fold:

1. **Front-end** : user-interactive and dynamic interface
2. **Back-end** : database, and data-acquisition, data-processing, and monitoring software.

The latest stable *(LTS)* versions of the following modern software technologies will be utilized in development:

|  |  |
| --- | --- |
| **Programming language(s)** | **Purpose** |
| * HTML5, CSS3, JavaScript ES6, PHP 8 | Web design and development |
| * R v4 | Statistical computing |
| * SQL : 2016 | Centralized relational database |
| * C17 | Data acquisition from hardware |
| * Apache HTTP Server v2 (*via* XAMPP v8) | Intranet setup and management |

The code will strictly follow the *ISO / IEC / IEEE* standards to ensure software safety, security, and reliability.

The resulting server-based software will be verifiably robust, and it will provide the company with a centralized and coherent means to effectively and efficiently manage all its factories, and act more decisively.

2. Scope

The scope of this project will be as follows:

* Data acquisition
* Database management and manipulation
* Equipment (time-variant) diagnosis and prognosis, using Artificial Intelligence *(AI)* methods
* Statistical computing (including forecasting methods)
* Data visualization
* Hardware control
* Server setup and management

This software’s front-end module is essentially a web-app, and it will therefore be platform-independent. Any computer system or handheld device that has a web-browser (IE, Chrome, Firefox, etc.) installed within them can view and operate the software’s dashboard. The image below illustrates the dashboard overview.

The end-user is not expected to know the software’s inner workings. The software will perform the diagnostics, and then describe and illustrate its findings: both, problems and statuses. The user is then expected to impart simple, explicit, and imperative commands to it, via the user interface (button clicks).



3. Estimate

|  |  |
| --- | --- |
| **Web Design** | **100 hours** |
| **Back-end Development**   * Database management system * Hardware-to-software I/O system * Data acquisition and filtering * Application-specific functions (including statistical computing and AI) | **500 hours**   * 50 hours * 50 hours * 100 hours * 300 hours |
| **Testing**   * Standalone unit testing   + User interface testing   + Back-end functions unit testing * Integrated testing | **375 hours**   * 175 hours   + 25 hours   + 150 hours * 200 hours |
| **Integration**   * Application modules integration * Third-party software integration | **45 hours**   * 35 hours * 10 hours |

4. Timeline

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sr. No.** | **Task** | **Duration** | **Start** | **Finish** |
| 1 | Planning | 10 days | 01/09/2021, 9:00 AM | 14/09/2021, 5:00 PM |
| 2 | Third-party software requirements | 12 days | 15/09/2021, 9:00 AM | 30/09/2021, 5:00 PM |
| 3 | Web UI design | 14 days | 01/10/2021, 9:00 AM | 20/10/2021, 5:00 PM |
| 4 | Back-end development | 67 days | 01/10/2021, 9:00 AM | 17/01/2021, 5:00 PM |
| 5 | Testing | 50 days | 18/01/2022, 9:00 AM | 28/03/2021, 5:00 PM |
| 6 | Integration | 6 days | 01/02/2022, 9:00 AM | 08/02/2021, 5:00 PM |
| 7 | Packaging | 4 days | 09/02/2022, 9:00 AM | 14/02/2021, 5:00 PM |
| 8 | Intranet setup | 1 day | 04/04/2022, 9:00 AM | 04/04/2021, 5:00 PM |
| 9 | Deployment | 1 day | 04/04/2022, 9:00 AM | 04/04/2021, 5:00 PM |
| 10 | Feedback | 120 days | 05/04/2022, 9:00 AM | 19/09/2021, 5:00 PM |

5. Support

Our company has **24/7 customer support** to deal with any unexpected issues that the end-user may encounter while using our products. Our customer support is capable of guiding the user with using the software,   
understanding its aspects, as well as self-performing basic diagnostics.

Each product has a six-month warranty to deal with technical issues, after which the client may subscribe to a   
long-term *technical-support contract*.

Our dedicated **technical support** team is capable of providing the following services:

* promptly remote-troubleshooting basic problems (larger problems can be diagnosed with the earliest priority)
* installation assistance and usability assistance
* adding new features (upgradation)
* appending third-party software
* custom-tailoring the software’s functionality (including scalability)

Our support can be both virtual and on-site (via appointment).