Milestone 1

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Software Requirements Specification Document

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For: **"The Kanban board"** version 1.0

IPF Technologies Ltd.

1) <u>Introduction:</u>

1.1) <u>Purpose:</u>

In **IPF Technologies Ltd.** we strive to do everything we can to enable our clients to deliver outstanding products and services. Best known for our specialization in creating custom Kanban boards, we help organizations to create an environment of continuous improvement and innovation to deliver customer value, faster. **The Kanban Board** is an agile project management tool designed to help companies visualize work, limit work-in-progress and maximize the efficiency among its' employees. In this document we unfold exactly how we create the one of a kind system called "The Kanban board". The document displays the intended audience, the main requirements, the interface for the user, new features etc.

1.2) <u>Intended use:</u>

The main goal of a digital Kanban board is to help manage, regulate and track the workflow of a company. It does that by visualizing the work and make it more accessible and clear. Kanban elevates virtual whiteboards from visual to-do lists to powerful workflow optimization and collaboration tools. It helps companies to monitor their work flow and gather the metrics they need to measure and improve.

The Kanban system provides companies a big-picture understanding of the work that helps teams work together more effectively. It limits the amount of work in process so the work flowing through the system matches its capacity. In other words, a system can only handle so much traffic and still have that traffic move smoothly through the steps in the process.

Once the Kanban system is in place, it becomes the cornerstone for a culture of continuous improvement. Teams can measure their effectiveness by tracking flow, quality, throughput, lead times, and more. Experiments and analysis can change the system further to improve team's effectiveness.

1.3) Intended audience:

1.3.1) Client:

The clients have a major role in promoting a systematic approach to the management of health and safety in construction. They will set the tone of the project and make decisions crucial to its development.

The clients of **"The Kanban board"** project have the vision of the final product in all fields, such as product behavior and visibility. They finance the project at any stage, from the initial development to the assimilation of the software in the costumer's system. The client role in the ''The Kanban board'' project are:

- Financier and eventual owner.

- Being responsible for the execution of the project from the initial idea to implementation.

- Choosing the players involved in all stages from design through construction to long term management.

- Ensuring that the needs of building users/customers are met.

- Ensuring that the relevant permissions are secured (planning etc) in partnership with the professionals appointed to the project.

1.3.2) Customer:

"There is only one boss. The customer." -Sam Walton

Our goal is to create an environment that lets our customers to focus on creating products people love. Therefore, the purpose of "The Kanban board" project is, first and foremost, to fulfill customer's **needs** and **requirements**. The customer pay for the product and he is the beneficiary from the results of the project which are defined as ultimate deliverables. It is necessary for the customer to inform the project team with his demands and requests during all stages of the project, in order to receive the desirable results. This measure is necessary in order to make certain that the ultimate deliverables meet the expectations of the customer.
The intended customers of "The Kanban board" project are companies from the High-tech field. Those companies may suffer from lack of task management or workflow issues, and that is where "The Kanban Board" comes to help. The main roles of companies who buy the product and are defined as customers are:

- Delivering specified vendor requirements and needs.
- Make sure the system answer those needs **before** the project continues to the development stage.
- Assimilation the project in the company systems with the help of the developers.

1.3.3) User:

"The Kanban board" project is intended to make the life of the end user easier and more efficient. Therefore, the end user has one of the most important roles in the project, as he knows best what he needs. He is responsible for defining the capabilities required from the product. He is involved throughout the project to make sure everything that is delivered solves a problem and contribute his work. The end user makes use of user scenarios and acceptance tests to confirm that he is getting what he needs from the project. Involving the user in every stage of the project enables him to quickly raise concerns if he is not getting what he needs.
In "The Kanban board" project the users are employees and managers of companies which work with computers system. The main roles of the end user are:

- Make sure the system solve problems it designed to solve.
- Make sure the system is intuitive for him and easy to use.
- To alert if the system not meets all his needs or has any miss-understanding between his actual requirements and the developers understanding of the requirements.

2) System Requirements and Features:

2.1) Functional Requirements:

Must do requirements:

2.1.1) System:

- The system should provide proper use without any exceptions, even when all users in the company use the system parallely at the the same time.
- The system is expected to operate even when an error occurs and handle any malformed input (login for non-existing user, etc).

2.1.2) Hardware:

- The system needs to store all the board's information on the hard drive.

Highly desirable requirements:

2.1.3) User Experience:

States:

- Default: Three empty columns: "To do", "In progress" and "Done". At any time the Kanban board displays all columns.
- Adding new cardboard window: Define the status of the new task and write its title. By default the sorting of the task cards would be by the creation date and time.
- Editing existing cardboard: Change the task status or title. Option to hide the task or to pin it.

Functions:

- Adding a new cardboard: The option to add a new task with status and description.

- Limits: The ability to limit the numbers of tasks in each column.

- Card editing:
  - Edit title with short description: up to 150 characters.
  - Change card status (To do/ In progress/ Done).
  - Option to pin a task to keep it shown at the top.
  - Option to hide a task, in order to avoid distraction and over information.
  - Option to delete a task.
- Filter:
  - Filter tasks by name.
  - Filter tasks by date.

Limitations:

- Display 5 cards maximum in each column at the same time.
- 150 characters in each cardboard description.

2.1.4) Security:

- A task can be assigned only to a registered user (identified by an email address).
- Support login of users identified by a username.
- A user that does not interact with the system for 20 seconds should be logged out automatically.

2.2) Non-functional Requirements:

Must do requirements:

2.2.1) Logging:

States:

- Logging main window: Has two fields to fill: email address and password.
- Waiting for validation: While the system runs the database to validate the input.
- Invalid input message: If user enters an incorrect email address and/or password.

Functions:

- logging system by email and password:
  - The password should contain 8 characters, containing both letters and numbers.
  - The email is the user's email address used in office and documented in the company's stock.

2.2.2) Users and human factors:

- Vision accessibility: The system would be accessible for color-blind users:

  - An option to change the colors of the system to shades of yellow or blue colors, which most of color-blind users see better.
  - An option to zoom in and zoom out the Kanban board.

Highly desirable requirements:

2.2.3) Documentation:

- Tracking productivity: The manager can follow the tasks on the board and get informed when a task has moved to the "Done" column.
- Tracking employees' tasks: The manager can check the tasks done by each user.

Possible requirements:

2.2.4) Quality Assurance:

- Functions check: checks that all features and buttons in the system work and do their designated action.
- Logging In: checks that user is allowed to connect to the system only if he typed correctly both email address and password.
- Data: All of the tasks are shown when user log out of the system and log in again.
- Accessibility: after pressing the color-blind accessibility button the application color turn to the chosen color.
- Sign out: checks that a user can log out properly.

2.1) System Features:

- Accessibility button: Color-blind users can change the colors of the interface to shades of blue or yellow in order to use the system properly.
- Login: User can sign into the system using his email address and a chosen password.
- Quick filters: Filters for sorting tasks in the columns, by "Date", "My partners" and "My tasks".
- Pin task: The ability to pin a task to the top of the column. Pinned tasks will remain top even if by current filters they are not supposed to be shown at the top.

- Hide task: The ability to hide a task, avoid over information and distraction.
- Sign out: The ability to sign out from the account and go back to the logging window.
- Delete existing task: Ability to remove a task from the columns.
- Change tasks' information: Option to change the title or the description of a specific task (the description contains up to 150 chars).
- GUI: Shown the number of tasks that are opened in each column
- Report: An indication of how many tasks were done by each user in a specified period of time.

High Level Design

Terminology

Kanban Board

Board that allows you to manage tasks in an efficient way.
The kanban board is divided into 3 sections:
To Do, In Progress and Done.

User

A person who interacts with the system.

Login

The act of signing into the system by the user.

Cardboard Frame

A task added by the user. It contains a title, a short description and the date of publish. The description is limited to 150 characters.

Actors

User

A person who uses the application for task management (Manager/Employee). User is identified by logging into the system with an email address and a password.

Client

High-tech companies.

Communication model

Each user log into the system with a unique email address and password.

Kanban framework

Adding new cardboard

Adding a task to the Kanban board.

Editing a cardboard

-Editing the status of a task:
- To Do
- In Progress
- Done

-Editing the description of a task.
-Deleting a task.

Filters

Sorts the tasks by:
- Date
- User

Pinned Task

A task that was pinned by the user will remain visible at the top of the column, regardless of the filters applied.

Accessibility

The ability to change the color of the system to help color-blind users.

Sign Out

Signing out of the system.