

# Dynamic ERP

## Small Scale Enterprise Resource Planner

### GROUP 2

Vishaal Bakshi

Jason De Boer

Jason Lyster

Parker Siroishka

Matthew Buhler



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## Introduction

The purpose of the ERP is to give small companies or emerging start-ups the option to manage company resources in a cost-effective manner.

Currently the market caters to large scale corporations with massive budgets to buy full scale software packages at a premium price. However, start-ups that face strict scrutiny of their finances by their investors often lack this option.

***Business Requirements:*** The goal of the application shall be to provide basic day to day management of various tasks for users in the organization. These will be further outlined later using the Persona case. At a high level there shall be two types of users: Admin and Non-Admin. Administrators will use the application in an unrestricted manner. Non-Admin users shall use the application to quickly perform/manage daily tasks. Integrated, fast and flexible business processes that is a high availability system to access their services.

***Typical Client:*** The client will be an Information Services startup looking to gain market edge by optimizing their tasks in-house through the app. The core functionality will offer 4 features:

**HR Management** -> Human Resources staff shall be able add new employees to the system and delete. They shall also be in charge of adding these users to their respective departments

**Inventory Management** -> Employees having the ability to manage inventory of servers, hardware etc.

**Service** -> Employees shall be assigned tasks by Admin. E.g. IT consultants.

**Messaging App** -> Employees across the organization will use the application to discuss issues in real-time.

## USERS AND REQUIREMENTS

*Primary Groups:* As stated earlier, the primary groups shall be administrators from various departments. They shall have unrestricted access to the application and all its features.

The app will enable them to view, edit, update any of the features outlined above. All data that is modified will be saved on a server so that there is no loss of data for the organization.

*Secondary Groups:* Primarily anyone in the organization that is not an admin. They could belong to any department of the organization. Members of this group will have scoped functionality. This essentially means that they will access

features of the application limited to their roles. Privileges shall be assigned by admin members.

*Persona:* Typical User description. IT consultant with reasonable experience in application use. The consultant belongs to the secondary group who has worked in various organizations. She is familiar with ERP software who has used it extensively for past projects Although the application does not provide high-end services that she has used in the past, the learning curve for using this application will be very easy.

*Sample Tasks:*

- Example 1: Consultant wishes to access her assigned tasks by logging into the system.
- Example 2: Persona wishes to use the chat application to interact with team members or ask the supervisor questions regarding the task.
- Example 3: Consultant wants access to additional servers to service growing client needs.
- Example 4: Consultant will contact HR to update her profile information such as Phone number, legal name, Address etc.

# FUNCTIONAL & IMPLEMENTATION REQUIREMENTS

Note: The following functionality description is based on early stage development and might change as the project progresses through development.

The approach we are taking is one of “Agile” development to build a “RESTful API”. This interface uses well established HTTP protocols such as GET, PUT, POST and DELETE data for various software tools to interact with the server etc. We shall further elaborate on this later.

To meet customer needs we plan to build a single web application that stores user data (and their access rights) on a server. When the user logs in using their credentials, the application displays features that are assigned to them by the system administrators.

The requirements will include:

**HR, Inventory, Service requirements:** When administrator employees log in, their respective job functions are displayed to them. The front end is all that the user sees, all requests for data entry are made in the back-end which happen for the users behind the scenes. This is important as the user is not concerned with the “how”, but only that the desired result is entered into the system. All data entries shall be logged in a database.

**Web Application:** This will be a universal feature that all organization members will have access to. The chat window will be displayed in a fixed position in the browser but the chat will be updated in real-time. The application is persistent and will save the chat such that when the

user logs out and logs in again, the chat window will contain the messages where they left off.

**Mobile Functionality:** This app will also function on mobile devices. The feature set may be reduced to viewing data in specific modules and entering form data. Some functionality such as administration also may be omitted from the mobile platform.

## Timeline

- Project Proposal – 17 Feb
- Basic Prototype – 7 Mar
- Back End Completion – 18 Mar
- Front End Completion – 25 Mar
- Porting to Mobile – 1 Apr
- Testing and Refinement – 1 Apr

## Technical Details

Implementation of the application will be done “Full-Stack” using the industry standard known as the “MEAN” stack. “MEAN” stack refers to the following technologies:

MongoDB or Mongoose: a document database that allows querying and indexing

Express: a basic framework that uses Node.js to build web and mobile applications

Angular 2: core of the application shall be built on this framework as it is made for dynamic web applications.

Node.js: server environment