Project Specification: Construction Project Management System

Purpose and Overview

The Construction Project Management System (CPMS) demonstrates the principles and functionality of the SAMO technology platform applied to construction projects. To better illustrate and understand how to manage project data, an example of various construction sites, tasks, resources, and stakeholders will be used. This will show how data is related and how it can be efficiently displayed and managed.

SAMO is adaptable for creating both simple and complex management systems. Systematic data capture and structured data display allow businesses to focus on operational activities without being bogged down by administrative overhead.

The platform features an intuitive interface, easy configuration, and seamless integration with existing systems.

The Concept of Tiles

The tiles in the system's dashboard represent different agendas or modules. Each tile has a specific set of functions. Pictograms clearly indicate the purpose of each tile, with some providing a preview of basic data, such as the number of ongoing projects or tasks.

Together, these tiles form an interconnected system of data. The configuration of each tile determines which data and level of detail are displayed. Data can be filtered to suit user needs. Each user only accesses data that they have permission to view or that falls within their area of responsibility.

Map Application

Construction sites are spatial data objects that have GPS coordinates. They can be viewed on available map layers, displaying locations across Slovakia. Each site also has an associated information overview where details are entered, either through structured fields or free text, as defined in the metadata. The codebook ensures data consistency by maintaining an ordered list of unique entities.

It is also possible to display data in a list format. Users can choose between tile or table views. For example, it is possible to filter construction sites by project status, type, or location. For detailed analysis, an export function to Excel is available.

The system allows users to show or hide summary information for each item in the list. For instance, details about ongoing tasks at a particular construction site can be viewed. The overview window can be zoomed in and out by scrolling or navigated using arrow keys.

Tasks and Resources

Another key module is the task and resource database. This module is interconnected with both the individual construction sites and the broader project management agenda.

Each task has a link to the relevant construction site. Resources, such as machinery or materials, are similarly linked to specific tasks and sites. Stakeholders, who may provide funding or oversight, have a similar connection to the project.

Construction Sites

Construction sites function similarly to branches or departments within the system. Various tasks and resources are allocated to these sites. Sites require regular updates, maintenance, and inspections. Different types of sites (e.g., residential, commercial, infrastructure) are supported, each with its own set of statuses that can change over time. Sites are categorized by region, and each site has a project

manager. The list of managers is maintained in the stakeholder agenda, where each manager's respective sites are listed.

In addition to project managers, external contractors and service providers also work on the construction sites. This brings us to the management of external resources.

External Resources

External resources are managed similarly to internal employees within the system. Contractors, suppliers, and service providers are assigned to tasks at specific construction sites. The system emphasizes timedistributed data for these resources, focusing on scheduling and task assignment. Detailed reports can track the assignment of resources to specific sites.

Workflow

Project managers need to keep track of task progress and status changes. Is a task scheduled, in progress, or completed? A simple workflow diagram illustrates the flow of tasks through different stages.

The diagram shows which phases have been completed and which are upcoming, using points and arrows. Task types are managed separately for clarity.

All tasks and other activities can be viewed in a calendarlike overview. The Planning Board function serves as a summary view and can be used as the main dashboard for project management.

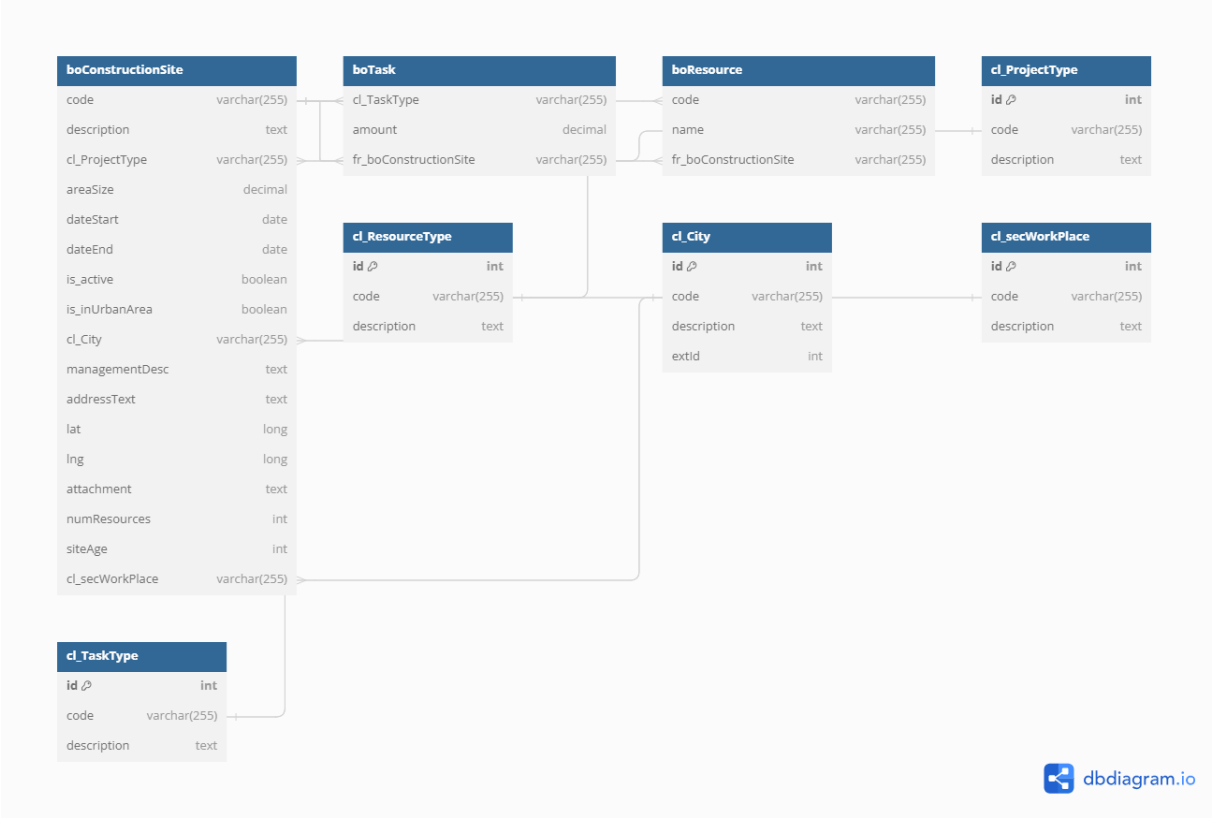
Additional Agendas

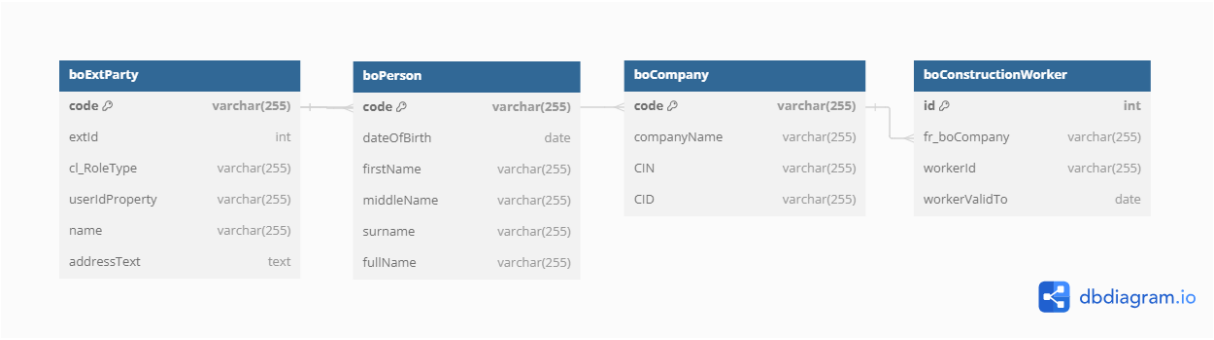
The strength of the metadatadriven SAMO platform is its ability to add additional modules that work with related data. This capability helps maintain data organization, visualize connections, and easily navigate between different areas of interest.

The agenda tiles clarify the amount of data available. Additionally, data can be displayed in charts, with the ability to adjust the level of detail as needed.

Context Between Objects and Data Types

The information system is broken down into individual business objects, such as construction sites. Relationships between objects are represented visually, with oneway arrows indicating dependencies (e.g., a task relies on resources). The system also defines data types (boolean, integer, etc.), specifies connections to input fields, and allows for freetext entry where appropriate.

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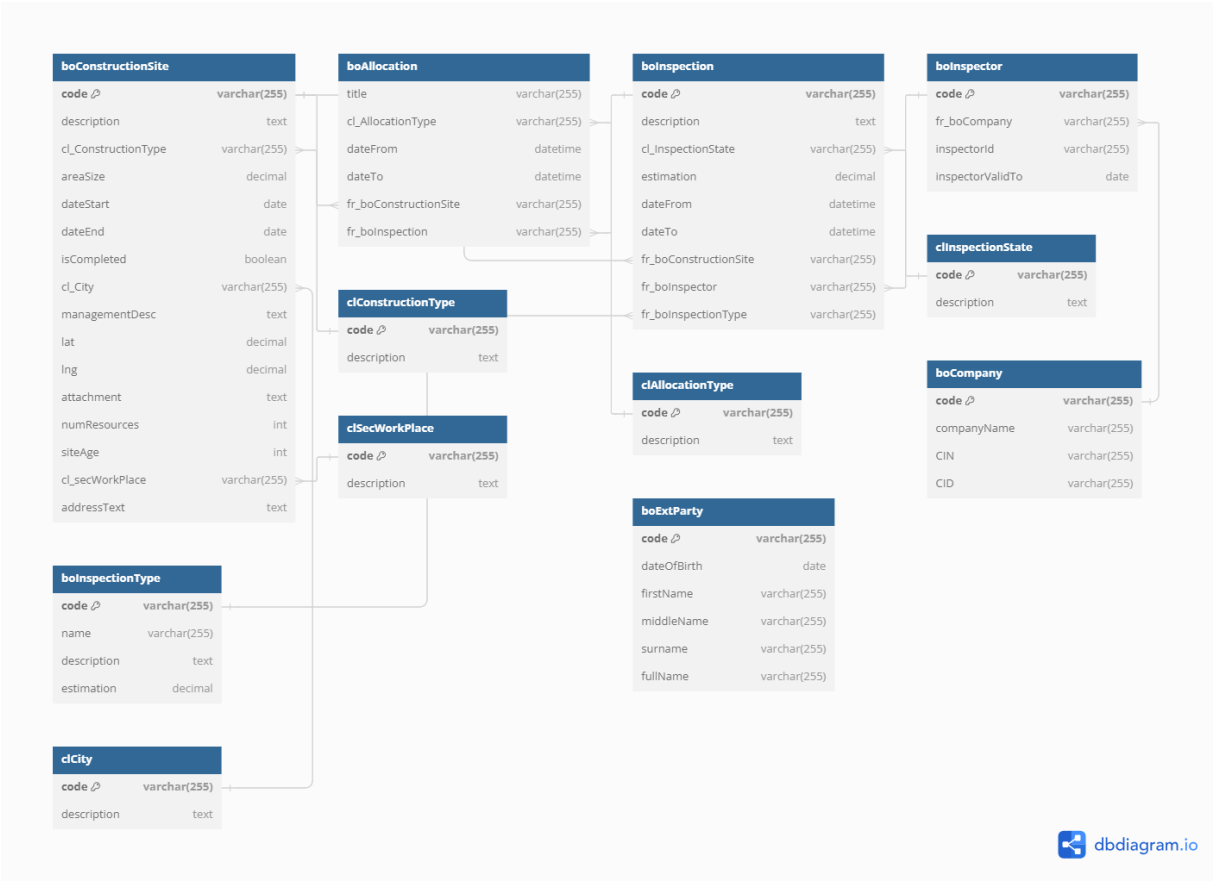
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