IT Ticket Management System

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| **Project:** | IT Ticket Management System |
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| **TL;DR:** | Create an IT Management Solution that will allow the IT team at my current company to monitor and track tickets in a single system using a web interface. |
| **Status:** | Conceptual |
| **Document Version:** | 1.0.0 |

# Overview

## Vision, purpose and scope (Business)

We aim to create an IT Ticket Management Software that will allow Requestors, IT Personnel, and Managers to create, view, manage, and track the progress of IT tickets from conception to completion.

This system aims to alleviate multiple problems:

* Opaque ticketing system (ticket goes in and is swallowed by the void)
* Organization for IT personnel (once you get too many open tickets, it becomes impossible to manage all of them effectively)
* Lack of insight into performance metrics for management

The scope of this project is limited to IT tickets. While there are likely other use cases for ticketing systems within the company, this project will only deal with IT specific tickets.

## Vision and scope (Technical)

We aim to create a web interface for the IT Ticket Management Software that can be accessed by Requestors, IT Personnel, and Managers, each with different views into the management system as befits their role in the process. This web interface will connect to a backend database that will store and secure ticket data.

The initial scope is limited to

* views for Requestors, IT Personnel, and Managers
* a single definition of what a ticket is in the database
* 3 reporting metrics in the initial release for managers
  + Time
  + Cost
  + Number of tickets completed

# Stakeholder identification

Parties with a vested interest in this project:

Users

IT Personnel

Managers/Management

# use cases

Requestor has issue that they need IT help with. Requestor creates ticket. IT Personnel assign ticket to relevant IT person. IT person checks the problem, utilizes the project tracker to keep track of progress, and messages the requestor. Once the problem has been solved, IT Personnel completes the project.

Manager wants to see who are his best performing and worst performing IT guys. He logs into the metrics page and pulls out individual data on who completes the most and least tickets, who has tickets open the longest and shortest, and who spends the most and least time per ticket.

* Note for the above scenario: None of these metrics alone should be the sole way that a manager judges performance as the type of ticket can wildly skew these numbers. A person who is often handed large projects will complete fewer than the guy who gets handed quick-fix tickets.

# Specific requirements including

## Functional requirements (e.g. what a product should do)

Requestor Needs Something Done By IT -> Creates Ticket in Web Interface

Requestor Needs to See Ticket Status and Updates -> Views Ticket in Web Interface

Requestor Needs to Message IT Personnel About Ticket -> Sends Notification to IT Personnel Through Web Interface

IT Personnel Needs to View New Tickets

IT Personnel Needs to View Assigned Tickets

IT Personnel Needs to View All Open Tickets

IT Personnel Needs to View All Tickets (Including Historical)

IT Personnel Needs to Search Inside Multiple Tickets for information

IT Personnel Needs To Sort Through Tickets

IT Personnel Needs To Edit Tickets

IT Personnel Needs To Save Edits

IT Personnel Needs to Close Tickets

IT Personnel Will Not Be Able to Delete Tickets

IT Personnel Will Be Able to Mark Tickets As Duplicates Or Merged With Another Ticket (With that other ticket’s ID)

IT Personnel Needs to Message Requestor

Manager Needs to View Tickets

Manager Needs to See tickets completed, tickets open, and forecasted rate of completions of Individual IT Personnel

Manager Needs to See tickets completed, tickets open, and forecasted rate of completions of All IT Personnel

Manager Needs to See Time Spent on currently open tickets, completed tickets, both open and completed tickets together, and a forecast of how long each ticket should take by each IT Personnel

Manager Needs to See Time Spent on currently open tickets, completed tickets, both open and completed tickets together, and a forecast of how long each ticket should take by All IT Personnel

Manager Needs to See Costs of Parts and Services in currently open tickets, completed tickets, both open and completed tickets together, and a forecast for external costs of tickets for a full year.

Manager Needs to See Costs of Labor of IT Personnel in currently open tickets, completed tickets, both open and completed tickets together, and a forecast for external costs of tickets for a full year.

Tickets Must include:

* Ticket ID (Auto-filled at Creation)
* User Problem (Filled out By User At Creation)
* Ticket Scope Category (Filled out By User and Editable By IT Personnel Or Manager)
* Ticket Status (Filled Automatically At Creation and Editable By IT Personnel Or Manager)
* Requestor Employee ID (Filled By User At Creation)
* Assigned IT Personnel (Filled By IT Personnel or Manager)
* Links Field for relevant internet or file links (Filled By Requestor or IT Personnel)
* Communications history field (tracks communication between requestor and IT Personnel about the project through the portal)
* Datetime of Ticket Creation (Autofilled at Creation)
* Datetime of Ticket Completion (Autofilled at Completion)
* Proactive or Reactive Designation (Filled by IT Personnel)
* Extra Cost Items (Filled By IT Personnel or Manager)
* Actual Time (in Hours) Spent By IT Personnel on Project (Filled by IT Personnel)

Managers Must be able to Set required Fields to Save edits

Managers Must be able to Set required Fields to Complete tickets

Manager must be able to set possible values for Ticket Status, Scope Category, and Assigned IT Personnel

## Usability requirements

All users must be able to use a web interface to interact with the project management system.

## Technical requirements (e.g. security, network, platform, integration, client)

Security

* Only IT Personnel and Managers should be allowed to edit tickets once they are input into the system.
* Data should be encrypted within the database
* A login will be required to Access the Ticket Management System as IT or a Manager
* A ticket number will be required to Access the Ticket Management System as a Requestor

Platform

* Must be usable on Windows 10 and 11, using either Chrome, Opera, or Edge browsers
* Will utilize a database in the background. I will be using an SSMS database in the background.
* Tech Stack - TBD

## Interaction requirements

Needs to be able to pull from and save to background database

In a perfect world, we would be able to get employee information from a company database.

* Alas, since the company does not exist, I will be fabricating employee data in a table (See assumptions).

# Assumptions, Constraints, and Dependencies

An entire fictional company is being created so most data I will be using is fabricated.

I have a self-imposed time deadline of 3 weeks for this project. I want to be done by Feb 21, 2024.

# High-level workflow plans, timelines, and milestones

## Timeline

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| 1. Get Github Repo Created | Done |
| 1. Create Requirements Document v1.0.0 | Done |
| 1. Create Database In MSSQL |  |
| 1. Link Database to Github Repo |  |
| 1. Pick Tech Stack/Update Requirements Doc |  |
| 1. Blog #1 for this project |  |
| 1. Create a ticket creation page |  |
| 1. Create a ticket view page for Requestors |  |
| 1. Create a ticket management page for IT Personnel and Managers |  |
| 1. Create a project editing page for IT Personnel and Managers (maybe similar to the view page for requestors?) |  |
| 1. Create a page for managers to see performance metrics. |  |
| 1. Blog #2 for this project |  |