SERVER INVENTROY DASHBOARD

BSDCBZC229T: Design Project

By

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202217B2094

Design Project work

HCL Tech, Hyderabad

Submitted in partial fulfilment of B.Sc. (Design and Computing) degree programme

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE
PILANI (RAJASTHAN)

September 2024

Birla Institute of Technology & Science, Pilani

Work-Integrated Learning Programmes Division

Summer Term 2024

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ABSTRACT

Outline of the Design Project

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DESIGN PROJECT TITLE	SRVER INVENTORY DASHBOARD

ABSTRACT

It may be difficult for a Windows administrator to manually update Google Sheets with server information, particularly while patching or performing various maintenance. Customers, managers, and clients commonly want specific information regarding servers such as CPU allocation, installed programs, and uptime. Manually checking this data takes time and may result in errors, especially if the information in Google Sheets is incorrect or out of date.

The purpose of this project is to provide a server inventory dashboard to address this issue. This web-based application will provide important server information such as server name, IP address, DNS name, CPU and memory allotment, uptime, installed apps, server owner, and application. This data will be simply and quickly available without the need for administrators.

Broad Academic Area of Work:

- Software Development
- Server Management (System administration)
- Web Application Development

Background:

In cloud or on-premises, Ops team management of the tracking of RAM and CPU allotment uptime and app installed in the server etc. The various servers is important in ensuring that the operations run smoothly.. The dashboard equips server and application owners with the performance metrics of the servers rendering them a live view of the server resource information to help them in making resource management decisions.

The system keeps information regarding the following details of the server as envisioned by the administrators:

• Server Name • CPU Allocated • Memory Allocated • Uptime • Installed Applications • DNS Name • IP Address • Server Owner • Application Owner

Scope of work:

Data Collection Automation: PowerShell scripts will run every four hours to extract information about the server (cpu, memory, dnsname, uptime, ip address, installed apps, server owner, application owner) from the AWS cloud servers and save it in a MySQL database management system

Backend Development: There will be a backend housing MySQL connecting and fetching/storing data with the help of Python (Flask) to use and expose API integration for frontend consumption.

Frontend Development Frontend development will entail creation of a web interface structured using HTML, CSS and Java Script with all system information

Database Management: All server-related data shall be retrieved and stored in a MySQL database management system and will therefore facilitate backend and frontend functionalities.

Plan of Work (6 Weeks):
Week 1. Define project requirements, finalize database schema, and set up project architecture.
Week 2. Create PowerShell scripts for server data collection and automate them.
Week 3. Design and implement the MySQL database schema to store server data.
Week 4. Develop Flask app and integrate with MySQL using Python connectors.
Week 5. Integrate frontend with backend to display real-time server data on the dashboard.
Week 6. Conduct system testing, fix bugs, and finalize documentation for deployment.

Literature References:

- Tutorials on Flask and MySQL integration.
- PowerShell documentation for automated data collection.
- Best practices in cloud infrastructure and system administration.
- Frontend development resources (HTML, CSS, JavaScript) for dashboard creation.

Objective:

An interactive web-based dashboard displaying crucial server information can be created.

There will always be real-time and correct data if the system fetches server data regularly through the use of PowerShell scripts.

To ensure proper storage and accessibility of the server s metrics and data a MySQL database should be implemented.

They are likely to respond to inquiries from clients and management faster since the administrators do not have to connect to each server to access simple server information.

Establish procedures including training and server periodic to ensure information accuracy and control the risks of mistakes.

5 .Particulars of the Mentor and Examiner

	Mentor	**Additional Mentor**

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Qualification	BE\ECE	BETECH (CSE)
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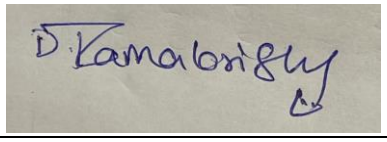
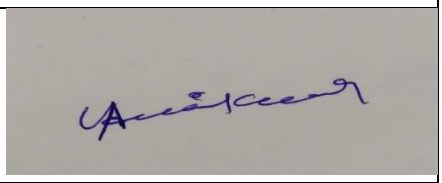
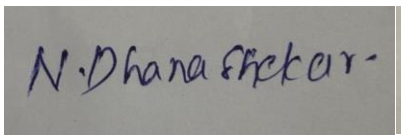
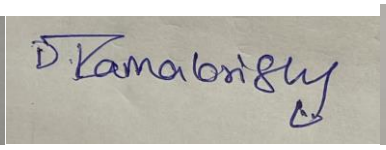
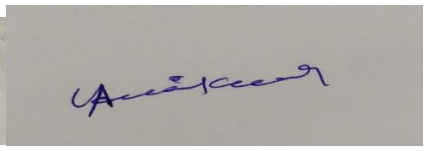
Signature		
Date	30/09/2024	30/09/2024

DESIGN PROJECT OUTLINE EVALUATION

(Please put a tick (✔) mark in the appropriate box)

EC No.	Component	Excellent	Good	Fair	Poor
1.	Design Project Outline	✔			

Remark of mentor: Good idea. Will be helpful reduce the manual effort and to show case the data in single shot

Signature of Student **Signature of Mentor** **Signature of Additional Mentor**

Name: N. Dhana shekar Name: Donthula Rama Krishna Name: Yanamalamanda Anilkumar