Computer Networks Project

Computer's Health Monitoring System

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WHY ?

- To increase the life of computer system.
- Taking maximum advantage of available resources.
- Instance prevention and problem detection.
- Notifying possible issues.

Overview

Motivation

We face issues many a times of random shut down in data centers, so if we monitor the system health (including CPU , RAM and Disk usage) we can take steps for better functioning.

Purpose

- To Monitor the essential statistics of CPU , RAM and Disk for better health of the computer system.

Plan

- Create a Client-Server socket by using socket programming using python.
- Fetch the essential information of the client system that we want to send.
- Write all that received information in the file for further analysis.
- Make a monitoring system to view the live status of the client system.

Programming Language & Modules

Programming Language

- We will use Python.
- Python has some really good libraries that make network programming easier and efficient

Modules/ Libraries to be Used

- Socket
- Sys
- Thread
- Psutil
- Time
- matplotlib

Modules Description

- **Sys**: The sys module is a set of functions which provide crucial information about how your Python script is interacting with the host system
- **Matplotlib**: Matplotlib is a multiplatform data visualization library that allows visual access to huge amounts of data in easily digestible visuals.
- **Socket**: To create a socket, socket.socket() function available in the Python socket module is used.
- **psutil**:IIt is a cross-platform library for retrieving information on running processes and system utilization (CPU, memory, disks) in Python.

Modules Description

- **Thread**: Thread module provides low-level primitives for working with multiple threads (also called light-weight processes or tasks) .

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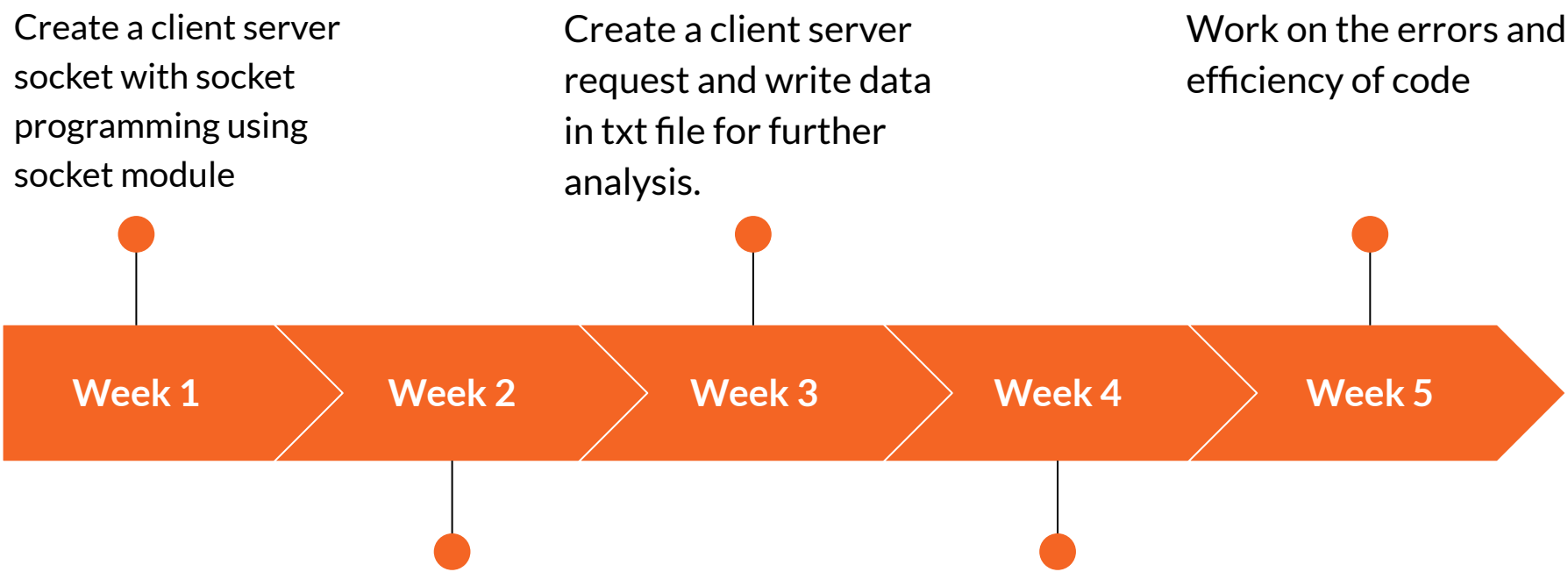
- **Time**: Time module provides a function for getting local time from the number of seconds elapsed since the epoch called localtime() :

Work Flow


Create a client server socket with socket programming using socket module
Create a client server request and write data in txt file for further analysis.
Work on the errors and efficiency of code
Week 1
Week 2
Week 3
Week 4
Week 5
Fetch Client system's information by using psutil module
Write server side code to fulfill the request and keep a track of requests.

Thank You