
Software Requirements Specification

For



Version: prototype

Prepared by,

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Introduction

1.1 Document Purpose

The product whose software requirements are specified in this document is HEAT.SINK .

The purpose of this document is to present a detailed description of the product, HEAT.SINK . This document is intended to

- Explain the purpose and features of the product, HEAT.SINK
- The constraints under which the product must operate
- How the product would respond to different users' requests.

The document's primary goal is to help the reader get a better understanding of the project. The document is intended for the developers of the software, the end users of the product who have been identified in the later sections, and to the professors who would review the project.

1.2 Product Scope

The software being developed is a python based system performance tracker. The product would accurately derive information from the system and track the usage and processes. It would assist the user by providing the following functionalities

- The current usage and recommended usage of the CPU
- Tracks the RAM usage by all the programs running.
- It alerts the user whenever there is a abnormal usage of CPU/GPU
- Records performance of system and tries to optimize it.

The points mentioned above would greatly improve system load. The software also helps in recommending optimal settings for the specific user system specification to run all programs smoothly.

1.3 Intended Audience and Document Overview

1.3.1 Intended Audience:

This document is primarily intended for the:

- All computer user to keep system from harm of overloading.
- Developers to keep an eye on their system programs resource usage.

1.3.2 Document Overview:

The first chapter, that is the Introduction section of the document is intended to introduce the reader to the product, HEAT.SINK.

The second chapter, Overall Description section of SRS v2.0 document provides an overview of the overall functionality of the product. It describes the informal requirements.

The third chapter, Specific Requirements section, of SRS v2.0 document is written primarily for the developers and describes in technical terms the details of the functionality of the product.

The second and the third chapter of the document describe the same software product, but are intended for different audiences and thus use different language.

1.4 Definitions, Acronyms and Abbreviations

1	SRS	SRS stands for Software Requirement Specification. It is a document that completely describes all of the functions of a proposed system and the constraints under which it must operate.
2	PYTHON	PYTHON is a computer programming language often used to build websites and software, automate tasks, and conduct data analysis.

Table no:2

1.5 Document Conventions

Formatting Conventions:

- The font style for the headings of each section is Arial Bold and the font size is 18.
- The font style for the headings under each section is Arial Bold and the font size used is 14.
- For the remainder of the document, the font style is Arial and the font size is maintained at 11.
- Italics has been used to indicate comments.
- The text is single spaced and margins are maintained at 1" separation.

1.6 References and Acknowledgments

1.6.1 References:

- www.python.com

1.6.2 Acknowledgments:

We would like to thank Prof. Komal Baheti , Prof. Sudeepa .We have gained a lot from their valuable input.

2. Overall Description

2.1 Product Perspective



Fig 2.1

The proposed software, HEAT.SINK is a new self contained product. The software, HEAT.SINK will gather information about various processes that are needed to track the usage of the CPU and recommend efficient settings to manage the functions running at that time. The software, HEAT.SINK is intended to define a optimal methodology for the user, beginning with all the current information of the system and offers requirements to optimize it.

There will be 4 views of the overall event:

- User
- SYSTEM
- Software Assistant
-

The software, HEAT.SINK will implement the following functionalities :

- Tracking of resource usage.
- Records all the usage and runs tests .
- Produces recommended settings of the system based on user priorities .
- Track the details and keep it under safety regulations.

2.2 Product Functionality

These are the major functionalities of the software, HEAT.SINK will achieve:

- A great tracker.
- Optimization.
- Alerts to avoid causalities.
- different modes and their settings

2.3 Users and Characteristics

This software is made for the system user.

2.4 Operating Environment

The software will be designed to work on any version of Windows. The software is completely python based .

2.5 Design and Implementation Constraints

We have to design the user interface using the python gui and other add on modules in python. No tutorials have been developed as of now.

2.7 Assumptions and Dependencies

Assumptions

The user is familiar with hoe to use the system and change settings.

3. Specific Requirements

3.1. External Interface Requirements

3.1.1. User Interfaces

The user interface design is simple and clear. One can very easily view the usage of the system resources in graphic or numeric forms .Which he/she can see the previous tracker data and current usage and decide to change setting to optimize the functioning of the system.

Sample Screenshots:

Home page



Fig 3.1.1 (a)

3.1.2. Hardware Interfaces

Not applicable.

3.1.3. Software Interfaces

The software is operating system dependent. It would run on Windows as it is made for windows OS.

3.2. Functional Requirements

The web-based HEAT.SINK being developed is generic. It can be used to manage any type of event, be it customized events or event types that are provided as templates:

- **Event Creation:**

HEAT.SINK would be able to create customized events and event types to match the requirements. Some of the most common events would be bundled in the database, but it would be very easy to add new ones if needed.

- **Task and Team Management:**

Tasks are the small pieces that build up a whole event. The event manager would create teams and group the staff into teams, and assign individual tasks to people involved in all the phases of the process, from event planning to event completion.

- **Budget:**

Inside every organization, budget control is one of the key features for success. The event manager would define maximum amount of money to be spent, and accordingly track the amount of money spent .

- **Automatic notifications:**

Notifications would be defined to keep all the team members informed about the important appointments or tasks that are pending. Notifications would also be helpful in establishing collaboration between two different teams if their tasks are dependent.

3.3. Behavior Requirements

3.3.1 Use Case View

2 actors have been identified for the product, HEAT.SINK , and each of them are shown with their own set of use cases.

The actors are depicted as stick figures in the use case diagram.

An overall system view of the software, HEAT.SINK is depicted with all the actors and their corresponding use cases put together.

All the events would have to proceed with a Login. The other events are self-explanatory as shown in the use case diagram.

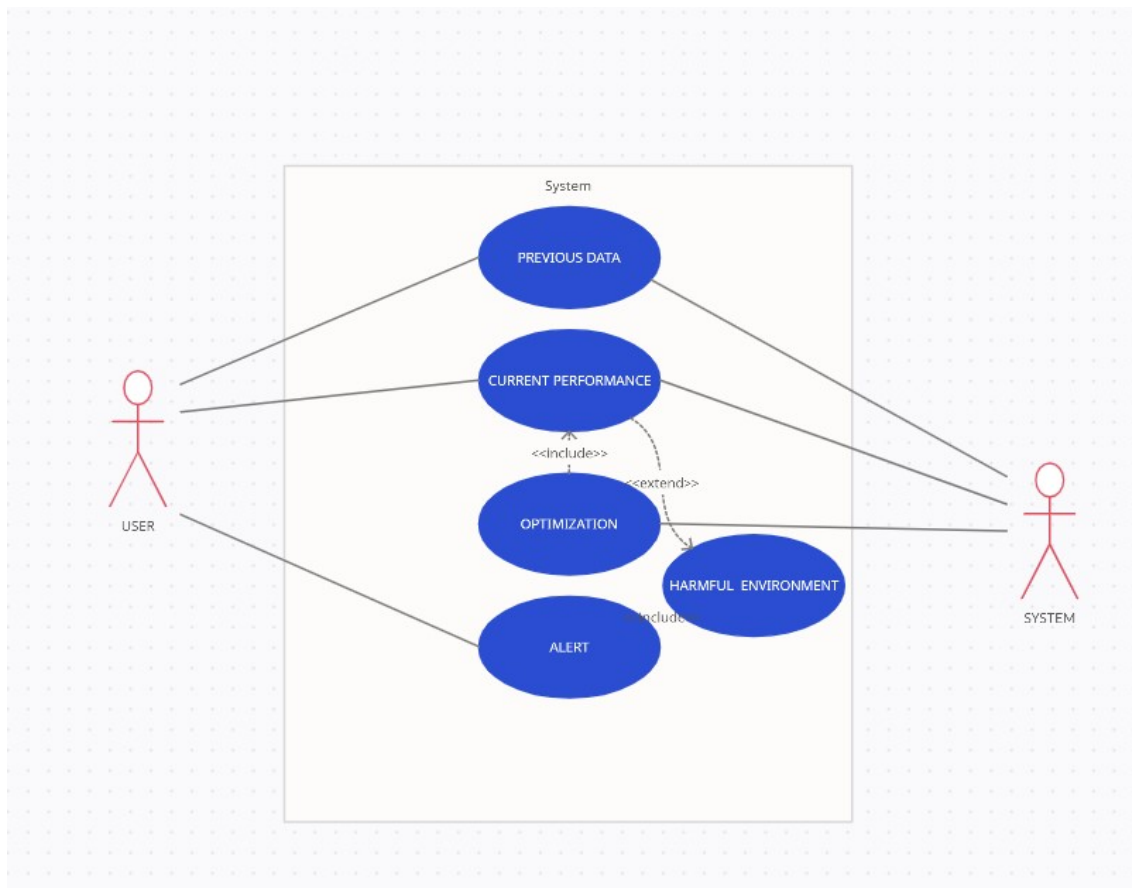


Fig 3.3.1 (a)

4. Other Non-functional Requirements

4.1. Performance Requirements

- Any changes or system changes must be as fast as possible with the completion bar displayed.

4.2. Safety and Security Requirements

- The user has to be informed of any system causalities.
- Prevent any system failure

4.3. Software Quality Attributes

The software will be built on a popular python programming language and various modules which can help us improve the user experience.

5. Other Requirements

5.1 Requirements Elicitation:

User friendly UI

Appendix A – Data Dictionary

1	Employer	Employer is an individual who has contacted the event organiser.
2	Modules	A module is a software component or part of a program that contains one or more routines. One or more independently developed modules make up a program.
3	UI	The user interface (UI) is the point of human-computer interaction and communication in a device.
4	RAM	RAM, also known as memory, is one of the most important components in determining your computer's speed and overall performance.
5	SRS	SRS stands for Software Requirement Specification. It is his used to refer to a document that completely describes all of the functions of a proposed system and the constraints under which it must operate.
6	Windows	Windows is an operating system designed by Microsoft. The operating system is what allows you to use a computer.

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