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|  | Technical Specification  ***Laptop*** |

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| --- | --- |
|  | Date |

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| --- | --- | --- | --- |
| Reference | **Technical Specification LAPTOP** | | |
| Summary |  | | |
| Project | **Laptop (SEA 6.3.1)** | | |
| System |  | | |
| Document perimeter | **Model** | | |
| Variant |  | | |
| History |  |  |  | |

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| --- | --- |
| Approvals |  |

|  |  |  |  |  |
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| Validation |  |  |  |  |

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| --- | --- |
| Contributors |  |

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# 1. Supervise data

## History

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| History | | | | |
| **Version** | **Date** | **Modification description** | | **Author** |
| 1.0 | **2025-08-14 01:44:26** | ADD Object | States and Modes[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 1.0]) | **samuel\_eval** |
| Standby[Requirement] (#- -> #1.3) |
| Shutdown[Requirement] (#- -> #1.3) |
| Restart[Requirement] (#- -> #1.3) |
| Physical shutdown[Requirement] (#- -> #1.2) |
| Hibernate[Requirement] (#- -> #1.2) |
| CF system protection[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 1.0]) |
| Antivirus update[Requirement] (#- -> #1.3) |
| Antivirus install[Requirement] (#- -> #1.2) |
| 2.0 | **2025-08-14 01:57:07** | ADD Object | control component availablity[Requirement] (#- -> #1.1) | **samuel\_eval** |
| [Processor Frequency] over 1,5 GHz[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| [CoreNumber] equals {1, 2, 4}[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Switch user[Requirement] (#- -> #1.3) |
| Switch ON-OFF the Laptop[Requirement] (#- -> #2.1) |
| Support results stream[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Support power modes[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Support execution of programs[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Support User identification[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Support Man Machine Interface[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Screen size of 15''[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Response time of 20 ms[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Realize [ProcessorFrequency] operation[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Provide support for displaying information to User[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Provide screen interface[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Provide graphic display output[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Processor frequency chosen \_ 1,6GHz nominal, 2,6 GHz max[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Processor core number chosen \_ 2[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Power execution[Requirement] (#- -> #1.3) |
| Personalize session[Requirement] (#- -> #1.3) |
| Performances data to display[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Password protection[Requirement] (#- -> #1.3) |
| Obtain programs results[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Multi-users[Requirement] (#- -> #1.3) |
| Manage heat (see MF4)[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Manage 3D display[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| MF1 - provide a mobile support to execute programs[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Improve the thread level parallelism with [CoreNumber][Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Fulfilled processor requirements[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Execute instructions[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Enter data from user[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Ensure a collaborative work between components[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Convert data to display[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Connect the subsystems[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Connect the devices (see MF5)[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| Bring power (see MF2)[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| [Laptop shall provide feedback to User about start sequence][Refine] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |
| [Laptop shall control that components are available][Refine] (#- -> #1.0 [Release Chain Document: "STEP 1 Charge modification", Rev# 5.0]) |
| [Laptop shall boot quickly][Refine] (#- -> #1.0 [Release Chain Document: "STEP 1 Charge modification", Rev# 5.0]) |
| Provide graphic display output[Refine] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) |

## Description

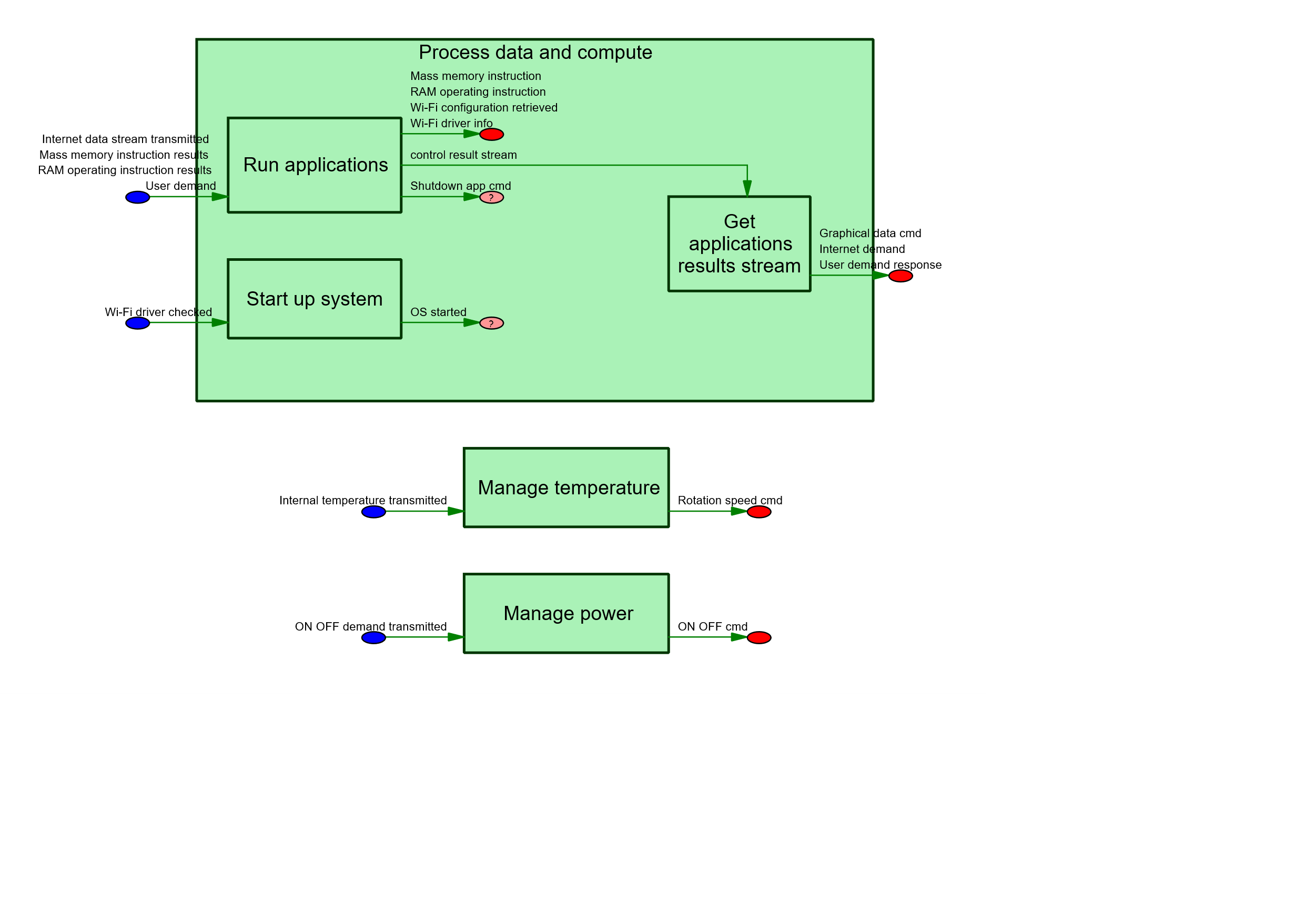
Supervise data

**Description:**  
This function is responsible for supervise data. It plays a key role in the laptop’s overall performance and reliability.

Below is an illustrative image:



## Diagram

**

## Specification

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 | Level 7 | Type | Revision | desc |
| **1. Supervise data** |  |  |  |  |  |  | Flow Chain | 2.0 |  |
| 1. Supervise data | **CF system protection** |  |  |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | CF system protection | **Antivirus install** |  |  |  |  | Requirement | 1.2 | The LapTop shall warn user he should install another antivirus |
| 1. Supervise data | CF system protection | **Antivirus update** |  |  |  |  | Requirement | 1.3 | The antivirus shall be updated automatically |
| 1. Supervise data | **MF1 - provide a mobile support to execute programs** |  |  |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | **Ensure a collaborative work between components** |  |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Ensure a collaborative work between components | **Connect the devices (see MF5)** |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Ensure a collaborative work between components | **Connect the subsystems** |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | **Enter data from user** |  |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | **Provide support for displaying information to User** |  |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Provide support for displaying information to User | **[Laptop shall provide feedback to User about start sequence]** |  |  |  | Refine | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Provide support for displaying information to User | **Convert data to display** |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Provide support for displaying information to User | Convert data to display | **Performances data to display** |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Provide support for displaying information to User | **Provide graphic display output** |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Provide support for displaying information to User | Provide graphic display output | **Provide graphic display output** |  |  | Refine | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Provide support for displaying information to User | **Provide screen interface** |  |  |  | Requirement | 1.0 | The system shall provide a screen interface |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Provide support for displaying information to User | Provide screen interface | **Response time of 20 ms** |  |  | Requirement | 1.0 | The system shall have a response time for displaying the result screen lower than 20 ms |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Provide support for displaying information to User | Provide screen interface | **Screen size of 15''** |  |  | Requirement | 1.0 | The system shall have a screen size of 15'' |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | **Support execution of programs** |  |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | **control component availablity** |  |  |  | Requirement | 1.1 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | control component availablity | **[Laptop shall control that components are available]** |  |  | Refine | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | **Execute instructions** |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | **Fulfilled processor requirements** |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | Fulfilled processor requirements | **Processor core number chosen \_ 2** |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | Fulfilled processor requirements | **Processor frequency chosen \_ 1,6GHz nominal, 2,6 GHz max** |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | **Improve the thread level parallelism with [CoreNumber]** |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | Improve the thread level parallelism with [CoreNumber] | **[CoreNumber] equals {1, 2, 4}** |  | Requirement | 1.0 | The system shall improve the thread level parallelism with a core number equals to [CoreNumber] |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | **Power execution** |  |  | Requirement | 1.3 | User shall be able to manage Laptop power consumption and manage OS start/stop |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | Power execution | **Bring power (see MF2)** |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | Power execution | **Support power modes** |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | Power execution | Support power modes | **Hibernate** | Requirement | 1.2 | the Laptop shall be able to hibernate |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | Power execution | Support power modes | **Physical shutdown** | Requirement | 1.2 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | Power execution | Support power modes | **Restart** | Requirement | 1.3 | Laptop shall be able to restart |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | Power execution | Support power modes | **Shutdown** | Requirement | 1.3 | Laptop shall be able to shutdown |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | Power execution | Support power modes | **Standby** | Requirement | 1.3 | The Laptop shall have a standby state |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | **Realize [ProcessorFrequency] operation** |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Execute instructions | Realize [ProcessorFrequency] operation | **[Processor Frequency] over 1,5 GHz** |  | Requirement | 1.0 | The system shall realize a number of operation by second higher than [ProcessorFrequency] |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | **Manage heat (see MF4)** |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | **Obtain programs results** |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | **Support results stream** |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | **Switch ON-OFF the Laptop** |  |  |  | Requirement | 2.1 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support execution of programs | Switch ON-OFF the Laptop | **[Laptop shall boot quickly]** |  |  | Refine | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | **Support Man Machine Interface** |  |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support Man Machine Interface | **Manage 3D display** |  |  |  | Requirement | 1.0 | The system shall manage 3D images displaying it correctly |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | **Support User identification** |  |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support User identification | **Multi-users** |  |  |  | Requirement | 1.3 | The Laptop shall support multiple users |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support User identification | Multi-users | **Password protection** |  |  | Requirement | 1.3 | each user shall be able to protect his data with a password |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support User identification | Multi-users | **Personalize session** |  |  | Requirement | 1.3 | each user shall be able to personalize his session |
| 1. Supervise data | MF1 - provide a mobile support to execute programs | Support User identification | Multi-users | **Switch user** |  |  | Requirement | 1.3 | From within one users session, Laptop shall allow to switch to another user's session |
| 1. Supervise data | **States and Modes** |  |  |  |  |  | Requirement | 1.0 |  |
| 1. Supervise data | States and Modes | **Hibernate** |  |  |  |  | Requirement | 1.2 | the Laptop shall be able to hibernate |
| 1. Supervise data | States and Modes | **Physical shutdown** |  |  |  |  | Requirement | 1.2 |  |
| 1. Supervise data | States and Modes | **Restart** |  |  |  |  | Requirement | 1.3 | Laptop shall be able to restart |
| 1. Supervise data | States and Modes | **Shutdown** |  |  |  |  | Requirement | 1.3 | Laptop shall be able to shutdown |
| 1. Supervise data | States and Modes | **Standby** |  |  |  |  | Requirement | 1.3 | The Laptop shall have a standby state |
|  |  |  |  |  |  |  |  |  |  |

# 2. Ensure cooling management

## History

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| History | | | | |
| **Version** | **Date** | **Modification description** | | **Author** |
| 1.0 | **2025-08-14 02:01:59** | ADD Object | Provide cold for Laptop[Requirement] (#- -> #1.0 [Release Chain Document: "2. Ensure cooling management", Rev# 1.0]) | **samuel\_eval** |
| Monitor the temperature[Requirement] (#- -> #1.0 [Release Chain Document: "2. Ensure cooling management", Rev# 1.0]) |
| Measure the processor temperature[Requirement] (#- -> #1.0 [Release Chain Document: "2. Ensure cooling management", Rev# 1.0]) |
| Manage Laptop subsystems cooling[Requirement] (#- -> #1.0 [Release Chain Document: "2. Ensure cooling management", Rev# 1.0]) |
| MF4 - Enable thermal management[Requirement] (#- -> #1.0 [Release Chain Document: "2. Ensure cooling management", Rev# 1.0]) |
| Have sufficient airflow to cool the processor[Requirement] (#- -> #1.0 [Release Chain Document: "2. Ensure cooling management", Rev# 1.0]) |
| Get airflow to cool the system[Requirement] (#- -> #1.0 [Release Chain Document: "2. Ensure cooling management", Rev# 1.0]) |
| Evacuate heat to environment[Requirement] (#- -> #1.0 [Release Chain Document: "2. Ensure cooling management", Rev# 1.0]) |
| Evacuate heat excess[Requirement] (#- -> #1.0 [Release Chain Document: "2. Ensure cooling management", Rev# 1.0]) |
| Battery heating[Requirement] (#- -> #1.0 [Release Chain Document: "2. Ensure cooling management", Rev# 1.0]) |

## Description

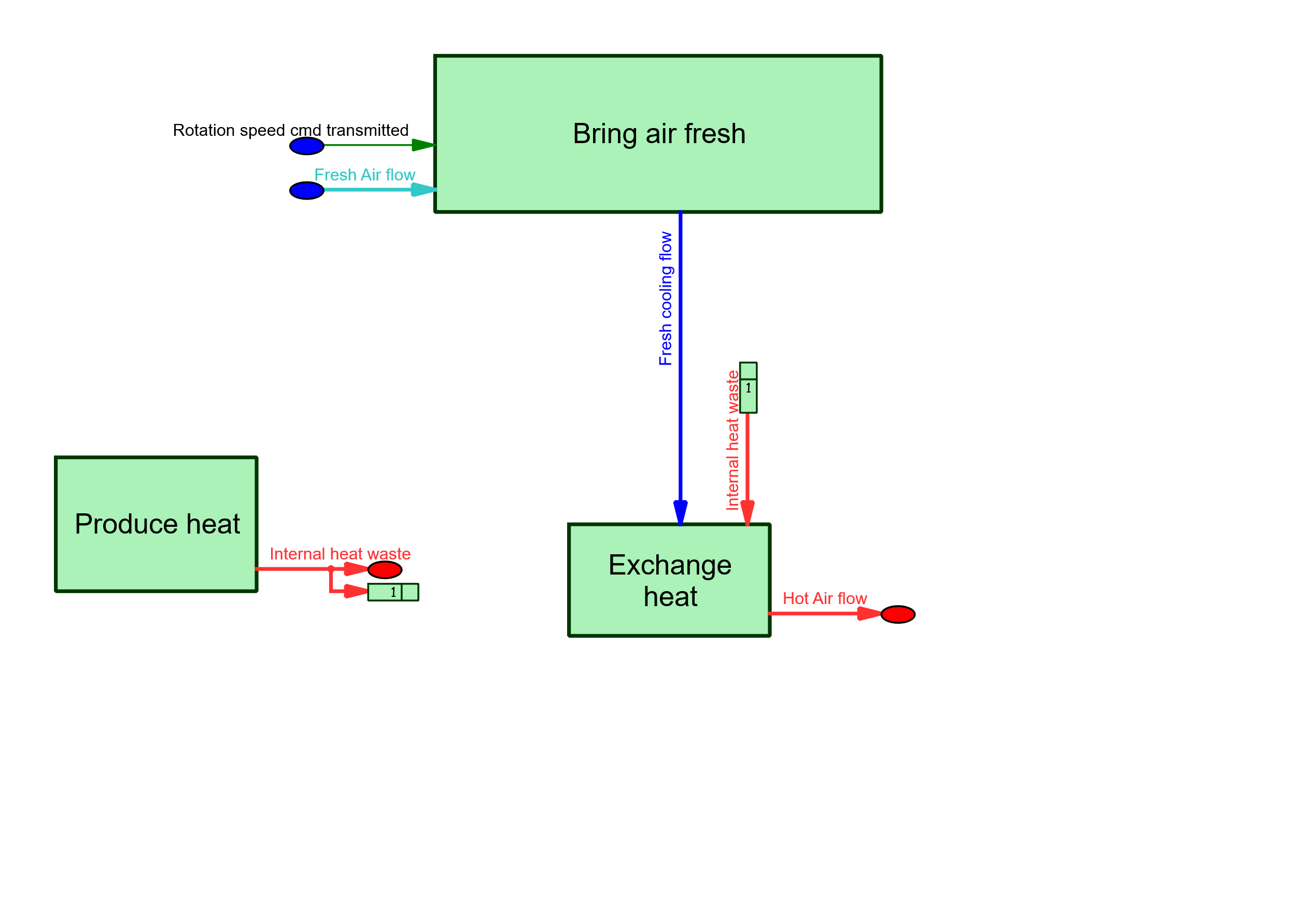
Ensure cooling management

**Description:**  
This function is responsible for ensure cooling management. It plays a key role in the laptop’s overall performance and reliability.

Below is an illustrative image:



## Diagram

**

## Specification

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Level 1 | Level 2 | Level 3 | Level 4 | Type | Revision | desc |
| **2. Ensure cooling management** |  |  |  | Flow Chain | 1.0 |  |
| 2. Ensure cooling management | **MF4 - Enable thermal management** |  |  | Requirement | 1.0 |  |
| 2. Ensure cooling management | MF4 - Enable thermal management | **Battery heating** |  | Requirement | 1.0 | Battery shall not overheat |
| 2. Ensure cooling management | MF4 - Enable thermal management | **Evacuate heat excess** |  | Requirement | 1.0 |  |
| 2. Ensure cooling management | MF4 - Enable thermal management | Evacuate heat excess | **Evacuate heat to environment** | Requirement | 1.0 | The system shall evacuate the heat that it produces to the environment. |
| 2. Ensure cooling management | MF4 - Enable thermal management | Evacuate heat excess | **Get airflow to cool the system** | Requirement | 1.0 |  |
| 2. Ensure cooling management | MF4 - Enable thermal management | Evacuate heat excess | **Provide cold for Laptop** | Requirement | 1.0 |  |
| 2. Ensure cooling management | MF4 - Enable thermal management | **Manage Laptop subsystems cooling** |  | Requirement | 1.0 |  |
| 2. Ensure cooling management | MF4 - Enable thermal management | Manage Laptop subsystems cooling | **Have sufficient airflow to cool the processor** | Requirement | 1.0 |  |
| 2. Ensure cooling management | MF4 - Enable thermal management | **Monitor the temperature** |  | Requirement | 1.0 |  |
| 2. Ensure cooling management | MF4 - Enable thermal management | Monitor the temperature | **Measure the processor temperature** | Requirement | 1.0 |  |
|  |  |  |  |  |  |  |

# 4. Manage MMI

## History

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| History | | | | | | | | | | | | |
| **Version** | | **Date** | | **Modification description** | | | | | | | **Author** | |
| 1.0 | | **2025-08-14 02:08:19** | | ADD Object | | Provide start and stop interface[Requirement] (#- -> #1.0 [Release Chain Document: "4. Manage MMI", Rev# 1.0]) | | | | | **samuel\_eval** | |
| Provide keyboard interface[Requirement] (#- -> #1.0 [Release Chain Document: "4. Manage MMI", Rev# 1.0]) | | | | |
| Provide Mouse Interface[Requirement] (#- -> #1.0 [Release Chain Document: "4. Manage MMI", Rev# 1.0]) | | | | |
| Provide Interface for User Requests[Requirement] (#- -> #1.0 [Release Chain Document: "4. Manage MMI", Rev# 1.0]) | | | | |
| MF5 - Enable Users interaction[Requirement] (#- -> #1.0 [Release Chain Document: "4. Manage MMI", Rev# 1.0]) | | | | |
| [User shall have an interface to power on the Laptop][Refine] (#- -> #1.0 [Release Chain Document: "4. Manage MMI", Rev# 1.0]) | | | | |
| 2.0 | | **2025-08-14 02:12:28** | | MODIFY Object | | Provide keyboard interface[Requirement] (#1.0 -> #2.0 [Release Chain Document: "4. Manage MMI", Rev# 2.0]) | | | | | **samuel\_eval** | |
| 3.0 | | **2025-08-14 02:13:57** | | MODIFY Object | | Provide Mouse Interface[Requirement] (#1.0 -> #2.0 [Release Chain Document: "4. Manage MMI", Rev# 3.0]) | | | | | **samuel\_eval** | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

## Description

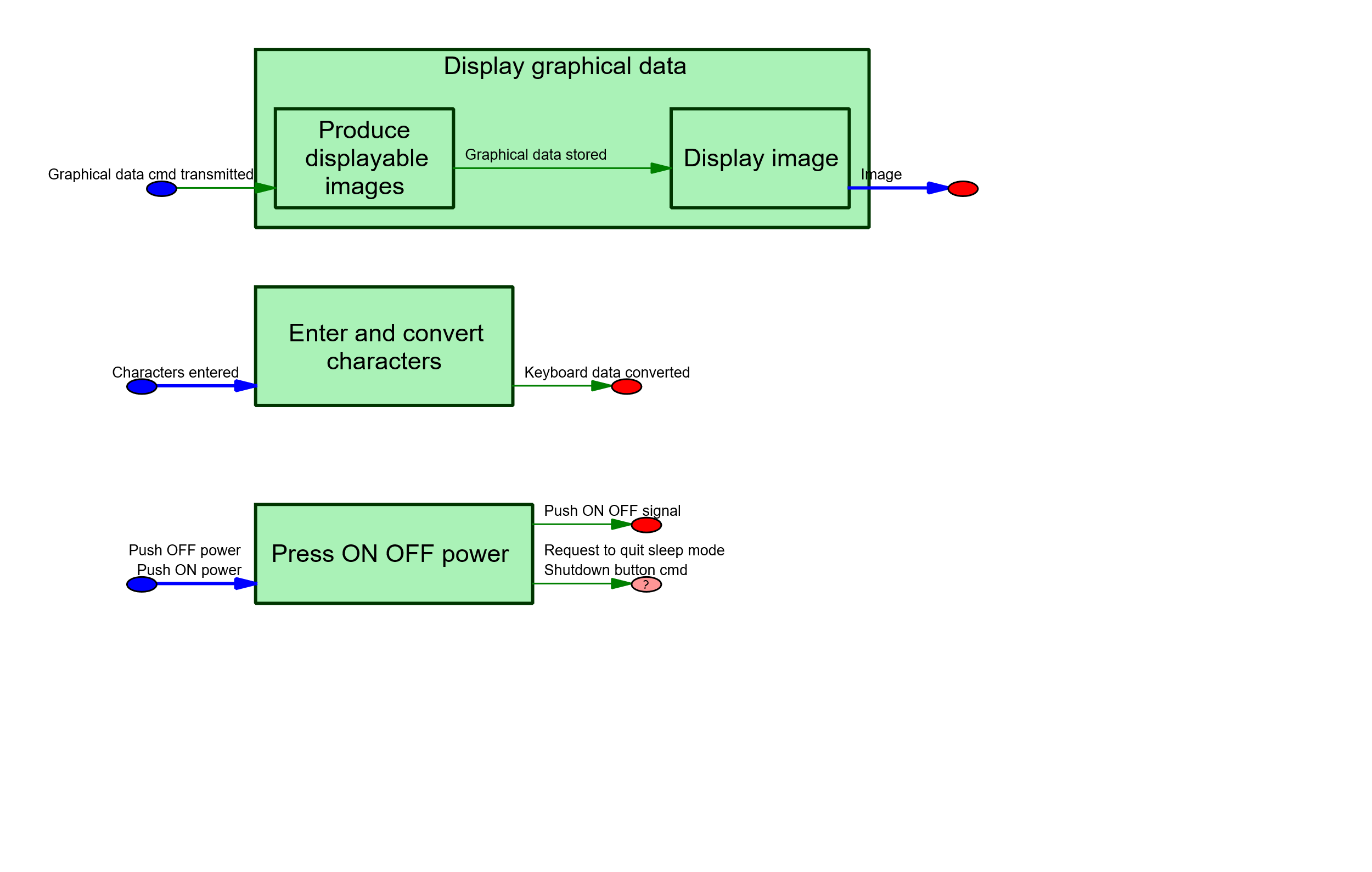
Manage MMI

**Description:**  
This function is responsible for manage mmi. It plays a key role in the laptop’s overall performance and reliability.

Below is an illustrative image:



## Diagram

**

## Specification

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Level 1 | Level 2 | Level 3 | Level 4 | Type | Revision | desc |
| **4. Manage MMI** |  |  |  | Flow Chain | 3.0 |  |
| 4. Manage MMI | **MF5 - Enable Users interaction** |  |  | Requirement | 1.0 |  |
| 4. Manage MMI | MF5 - Enable Users interaction | **Provide Interface for User Requests** |  | Requirement | 1.0 |  |
| 4. Manage MMI | MF5 - Enable Users interaction | Provide Interface for User Requests | **[User shall have an interface to power on the Laptop]** | Refine | 1.0 |  |
| 4. Manage MMI | MF5 - Enable Users interaction | Provide Interface for User Requests | **Provide keyboard interface** | Requirement | 2.0 | no desc |
| 4. Manage MMI | MF5 - Enable Users interaction | Provide Interface for User Requests | **Provide Mouse Interface** | Requirement | 2.0 | no desc |
| 4. Manage MMI | MF5 - Enable Users interaction | Provide Interface for User Requests | **Provide start and stop interface** | Requirement | 1.0 |  |
|  |  |  |  |  |  |  |

# 5. Communicate

## History

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| History | | | | | | | | | | | | |
| **Version** | | **Date** | | **Modification description** | | | | | | | **Author** | |
| 1.0 | | **2025-08-14 02:15:53** | | ADD Object | | Support wired internet connection[Requirement] (#- -> #1.0 [Release Chain Document: "5. Communicate", Rev# 1.0]) | | | | | **samuel\_eval** | |
| Support internet signal[Requirement] (#- -> #1.0 [Release Chain Document: "5. Communicate", Rev# 1.0]) | | | | |
| Support execution of Browsers[Requirement] (#- -> #1.0 [Release Chain Document: "5. Communicate", Rev# 1.0]) | | | | |
| Support Wi-Fi connection[Requirement] (#- -> #1.3) | | | | |
| Support Ethernet connection[Requirement] (#- -> #1.2) | | | | |
| Manage internet data[Requirement] (#- -> #1.0 [Release Chain Document: "5. Communicate", Rev# 1.0]) | | | | |
| MF3 - Enable browsing on the Internet[Requirement] (#- -> #1.0 [Release Chain Document: "5. Communicate", Rev# 1.0]) | | | | |
| Enable http communication[Requirement] (#- -> #1.0 [Release Chain Document: "5. Communicate", Rev# 1.0]) | | | | |
| Area network - wifi[Refine] (#- -> #1.0 [Release Chain Document: "5. Communicate", Rev# 1.0]) | | | | |
| Area network - ethernet[Refine] (#- -> #1.0 [Release Chain Document: "5. Communicate", Rev# 1.0]) | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

## Description

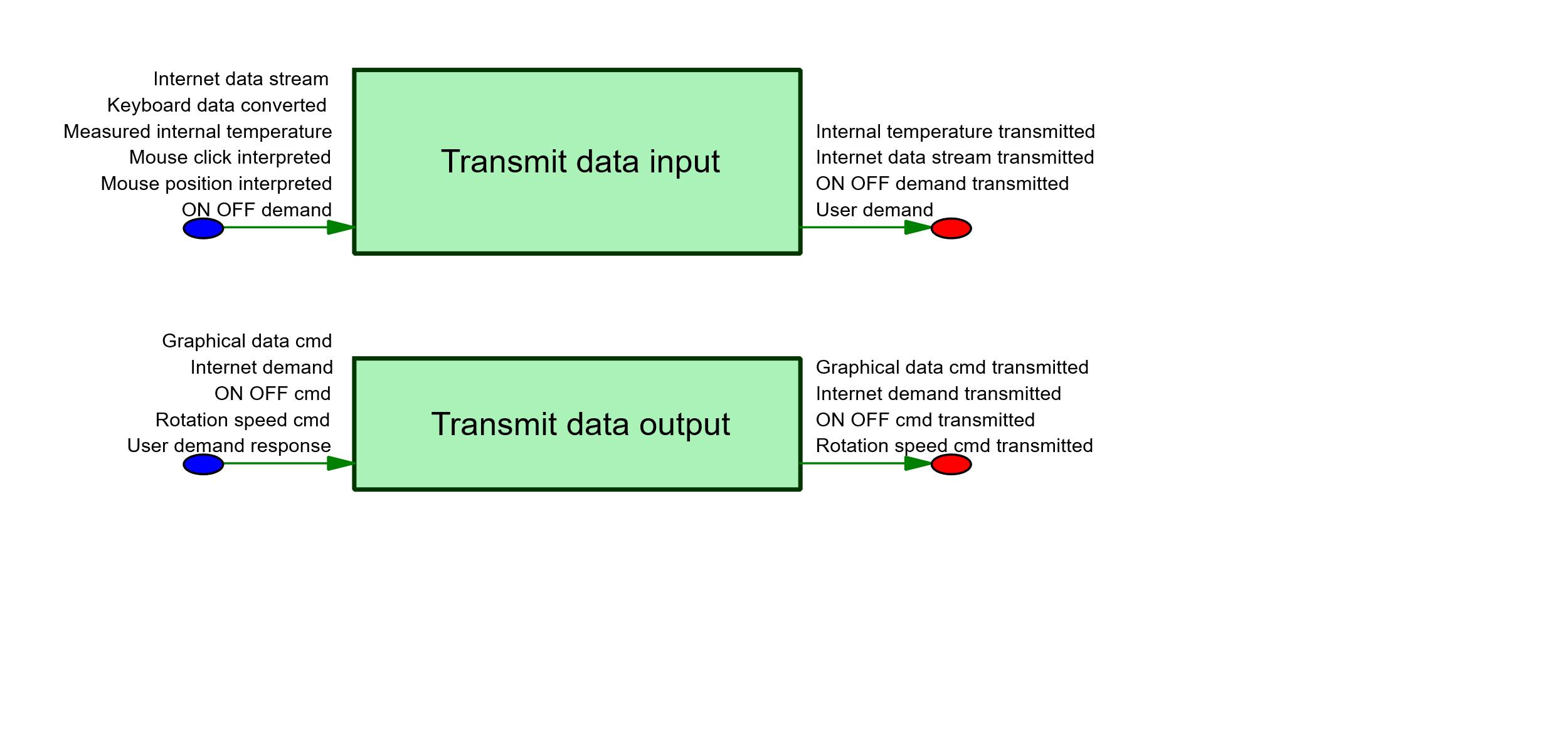
Communicate

**Description:**  
This function is responsible for communicate. It plays a key role in the laptop’s overall performance and reliability.

Below is an illustrative image:



## Diagram

**

## Specification

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 | Type | Revision | desc |
| **5. Communicate** |  |  |  |  | Flow Chain | 1.0 |  |
| 5. Communicate | **MF3 - Enable browsing on the Internet** |  |  |  | Requirement | 1.0 |  |
| 5. Communicate | MF3 - Enable browsing on the Internet | **Enable http communication** |  |  | Requirement | 1.0 |  |
| 5. Communicate | MF3 - Enable browsing on the Internet | Enable http communication | **Support Ethernet connection** |  | Requirement | 1.2 | LapTop has to be able to connect to Network using ethernet cable |
| 5. Communicate | MF3 - Enable browsing on the Internet | Enable http communication | Support Ethernet connection | **Area network - ethernet** | Refine | 1.0 |  |
| 5. Communicate | MF3 - Enable browsing on the Internet | Enable http communication | **Support Wi-Fi connection** |  | Requirement | 1.3 | LapTop has to be able to connect to WiFi network |
| 5. Communicate | MF3 - Enable browsing on the Internet | Enable http communication | Support Wi-Fi connection | **Area network - wifi** | Refine | 1.0 |  |
| 5. Communicate | MF3 - Enable browsing on the Internet | **Manage internet data** |  |  | Requirement | 1.0 |  |
| 5. Communicate | MF3 - Enable browsing on the Internet | Manage internet data | **Support internet signal** |  | Requirement | 1.0 |  |
| 5. Communicate | MF3 - Enable browsing on the Internet | Manage internet data | **Support wired internet connection** |  | Requirement | 1.0 |  |
| 5. Communicate | MF3 - Enable browsing on the Internet | **Support execution of Browsers** |  |  | Requirement | 1.0 |  |
|  |  |  |  |  |  |  |  |

# 6. Store data

## History

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| History | | | | | | | | | | | | |
| **Version** | | **Date** | | **Modification description** | | | | | | | **Author** | |
| 1.0 | | **2025-08-14 02:17:53** | | ADD Object | | [RAM\_MemorySize] over 2000[Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | | **samuel\_eval** | |
| [RAM\_LatencyTime] below 3[Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| RAM[Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| RAM [RAM\_MemorySize][Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| RAM [RAM\_LatencyTime][Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| Memory quantity[Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| MF1 - provide a mobile support to execute programs[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) | | | | |
| Lasting memory[Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| Lasting memory latency time[Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| Lasting memory data quantity[Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

## Description

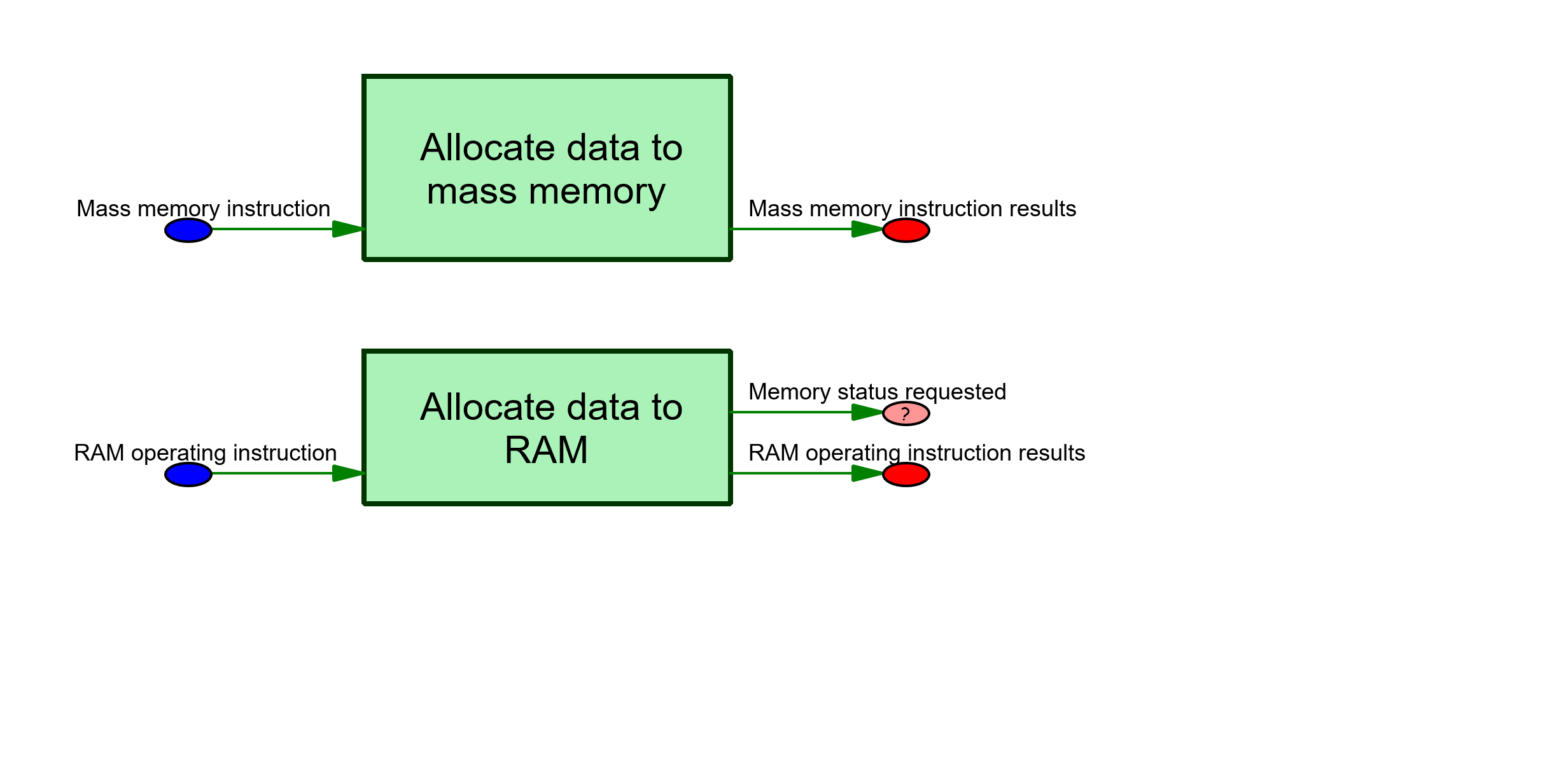
Store data

**Description:**  
This function is responsible for store data. It plays a key role in the laptop’s overall performance and reliability.

Below is an illustrative image:



## Diagram

**

## Specification

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 | Type | Revision | desc |
| **6. Store data** |  |  |  |  |  | Flow Chain | 1.0 |  |
| 6. Store data | **MF1 - provide a mobile support to execute programs** |  |  |  |  | Requirement | 1.0 |  |
| 6. Store data | MF1 - provide a mobile support to execute programs | **Memory quantity** |  |  |  | Requirement | 1.0 |  |
| 6. Store data | MF1 - provide a mobile support to execute programs | Memory quantity | **Lasting memory** |  |  | Requirement | 1.0 |  |
| 6. Store data | MF1 - provide a mobile support to execute programs | Memory quantity | Lasting memory | **Lasting memory data quantity** |  | Requirement | 1.0 | The system shall have a RAM data quantity of some hundreds of Go. |
| 6. Store data | MF1 - provide a mobile support to execute programs | Memory quantity | Lasting memory | **Lasting memory latency time** |  | Requirement | 1.0 | The system shall have a RAM latency time (or "access time") of some milliseconds. |
| 6. Store data | MF1 - provide a mobile support to execute programs | Memory quantity | **RAM** |  |  | Requirement | 1.0 | The system shall have a RAM (live memory) |
| 6. Store data | MF1 - provide a mobile support to execute programs | Memory quantity | RAM | **RAM [RAM\_LatencyTime]** |  | Requirement | 1.0 | The system shall have a latency time of at least [RAM\_LatencyTime] (10^-6 ). |
| 6. Store data | MF1 - provide a mobile support to execute programs | Memory quantity | RAM | RAM [RAM\_LatencyTime] | **[RAM\_LatencyTime] below 3** | Requirement | 1.0 |  |
| 6. Store data | MF1 - provide a mobile support to execute programs | Memory quantity | RAM | **RAM [RAM\_MemorySize]** |  | Requirement | 1.0 | The system shall have a memory size of at least [RAM\_MemorySize] (Mo). |
| 6. Store data | MF1 - provide a mobile support to execute programs | Memory quantity | RAM | RAM [RAM\_MemorySize] | **[RAM\_MemorySize] over 2000** | Requirement | 1.0 | The system shall have a memory size of at least 2000 (Mo). |
|  |  |  |  |  |  |  |  |  |

# 7. Manage physical parameters

## History

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| History | | | | | | | | | | | | |
| **Version** | | **Date** | | **Modification description** | | | | | | | **Author** | |
| 1.0 | | **2025-08-14 02:19:45** | | ADD Object | | [RAM\_MemorySize] over 2000[Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | | **samuel\_eval** | |
| [RAM\_LatencyTime] below 3[Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| RAM[Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| RAM [RAM\_MemorySize][Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| RAM [RAM\_LatencyTime][Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| Provide sufficient autonomy[Requirement] (#- -> #1.0 [Release Chain Document: "7. Manage physical parameters", Rev# 1.0]) | | | | |
| Provide internet connection (see MF3)[Requirement] (#- -> #1.0 [Release Chain Document: "7. Manage physical parameters", Rev# 1.0]) | | | | |
| Memory quantity[Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| MF1 - provide a mobile support to execute programs[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) | | | | |
| Lasting memory[Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| Lasting memory latency time[Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| Lasting memory data quantity[Requirement] (#- -> #1.0 [Release Chain Document: "6. Store data", Rev# 1.0]) | | | | |
| Ensure a collaborative work between components[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) | | | | |
| Connect the subsystems[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) | | | | |
| Connect the devices (see MF5)[Requirement] (#- -> #1.0 [Release Chain Document: "1. Supervise data", Rev# 2.0]) | | | | |
| CF usage and mission profiles[Requirement] (#- -> #1.0 [Release Chain Document: "7. Manage physical parameters", Rev# 1.0]) | | | | |
| CF Diagnostic, reprogramming, configuation[Requirement] (#- -> #1.0 [Release Chain Document: "7. Manage physical parameters", Rev# 1.0]) | | | | |
| Air temperature lower than 45°C[Requirement] (#- -> #1.0 [Release Chain Document: "7. Manage physical parameters", Rev# 1.0]) | | | | |
| Air temperature range[Refine] (#- -> #1.0 [Release Chain Document: "7. Manage physical parameters", Rev# 1.0]) | | | | |
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| Validation | | | | | | | | | | | | |
| **Version** | | **Review date** | | **Review animator** | | | **Verifiers** | | | **Validators** | | |
|  | |  | |  | | |  | | |  | | |
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## Description

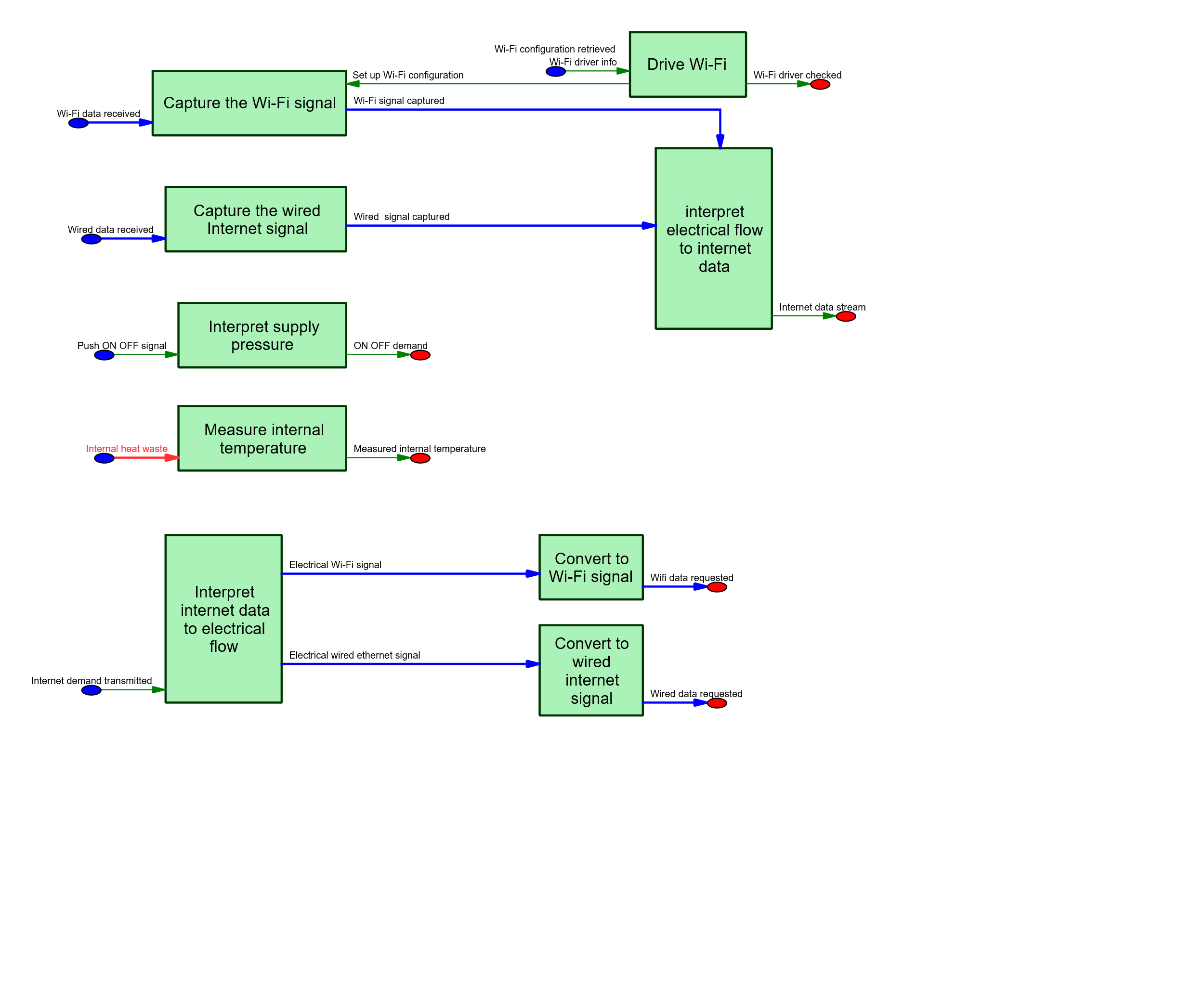
Manage physical parameters

**Description:**  
This function is responsible for manage physical parameters. It plays a key role in the laptop’s overall performance and reliability.

Below is an illustrative image:



## Diagram

**

## Specification

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 | Type | Revision | desc |
| **7. Manage physical parameters** |  |  |  |  |  | Flow Chain | 1.0 |  |
| 7. Manage physical parameters | **CF Diagnostic, reprogramming, configuation** |  |  |  |  | Requirement | 1.0 |  |
| 7. Manage physical parameters | **CF usage and mission profiles** |  |  |  |  | Requirement | 1.0 |  |
| 7. Manage physical parameters | CF usage and mission profiles | **Air temperature lower than 45°C** |  |  |  | Requirement | 1.0 |  |
| 7. Manage physical parameters | CF usage and mission profiles | Air temperature lower than 45°C | **Air temperature range** |  |  | Refine | 1.0 |  |
| 7. Manage physical parameters | **MF1 - provide a mobile support to execute programs** |  |  |  |  | Requirement | 1.0 |  |
| 7. Manage physical parameters | MF1 - provide a mobile support to execute programs | **Ensure a collaborative work between components** |  |  |  | Requirement | 1.0 |  |
| 7. Manage physical parameters | MF1 - provide a mobile support to execute programs | Ensure a collaborative work between components | **Connect the devices (see MF5)** |  |  | Requirement | 1.0 |  |
| 7. Manage physical parameters | MF1 - provide a mobile support to execute programs | Ensure a collaborative work between components | **Connect the subsystems** |  |  | Requirement | 1.0 |  |
| 7. Manage physical parameters | MF1 - provide a mobile support to execute programs | **Memory quantity** |  |  |  | Requirement | 1.0 |  |
| 7. Manage physical parameters | MF1 - provide a mobile support to execute programs | Memory quantity | **Lasting memory** |  |  | Requirement | 1.0 |  |
| 7. Manage physical parameters | MF1 - provide a mobile support to execute programs | Memory quantity | Lasting memory | **Lasting memory data quantity** |  | Requirement | 1.0 | The system shall have a RAM data quantity of some hundreds of Go. |
| 7. Manage physical parameters | MF1 - provide a mobile support to execute programs | Memory quantity | Lasting memory | **Lasting memory latency time** |  | Requirement | 1.0 | The system shall have a RAM latency time (or "access time") of some milliseconds. |
| 7. Manage physical parameters | MF1 - provide a mobile support to execute programs | Memory quantity | **RAM** |  |  | Requirement | 1.0 | The system shall have a RAM (live memory) |
| 7. Manage physical parameters | MF1 - provide a mobile support to execute programs | Memory quantity | RAM | **RAM [RAM\_LatencyTime]** |  | Requirement | 1.0 | The system shall have a latency time of at least [RAM\_LatencyTime] (10^-6 ). |
| 7. Manage physical parameters | MF1 - provide a mobile support to execute programs | Memory quantity | RAM | RAM [RAM\_LatencyTime] | **[RAM\_LatencyTime] below 3** | Requirement | 1.0 |  |
| 7. Manage physical parameters | MF1 - provide a mobile support to execute programs | Memory quantity | RAM | **RAM [RAM\_MemorySize]** |  | Requirement | 1.0 | The system shall have a memory size of at least [RAM\_MemorySize] (Mo). |
| 7. Manage physical parameters | MF1 - provide a mobile support to execute programs | Memory quantity | RAM | RAM [RAM\_MemorySize] | **[RAM\_MemorySize] over 2000** | Requirement | 1.0 | The system shall have a memory size of at least 2000 (Mo). |
| 7. Manage physical parameters | MF1 - provide a mobile support to execute programs | **Provide internet connection (see MF3)** |  |  |  | Requirement | 1.0 |  |
| 7. Manage physical parameters | MF1 - provide a mobile support to execute programs | **Provide sufficient autonomy** |  |  |  | Requirement | 1.0 |  |
|  |  |  |  |  |  |  |  |  |