**SOFTWARE REQUIREMENT SPECIFICATION**:

This Chapter describes about the requirements. It specifies the hardware and software requirements that are required in order to run the application properly. The Software Requirement Specification (SRS) is explained in detail, which includes overview of this dissertation as well as the functional and non-functional requirement of this dissertation.

**SRS for Cooperative Caching for Efficient Data Access in Disruption Tolerant Networks**

|  |  |
| --- | --- |
| **Functional** | Control the Congestion in Router; Finding the file in network central locations, Protecting the files in NCL, Cooperative caching efficient, File Privacy Management***.*** |
| **Non- Functional** | The Sender and Receiver never Find the Eavesdroppers |
| **External interface** | LAN , Routers |
| **Performance** | Browses the fie, uploads the encrypted file, finding the files, Requesting SK, Finding File Attackers Information. |
| **Attributes** | Cooperative caching, disruption tolerant networks, data access, network central locations, cache replacement, File Management, Attacker |

Table: 3.1 Summaries of SRS

**Functional Requirements**

Functional Requirement defines a function of a software system and how the system must behave when presented with specific inputs or conditions. These may include calculations, data manipulation and processing and other specific functionality. In this system following are the functional requirements:-

* The Service provider has to browse the file and send to the particular receiver.
* The Router has to accept the file from the service provider and generate energy in a node, and then select smallest energy path and send to particular receiver.
* The Router has connect to network central location, then store the file in network central locations (NCL 1, NCL 2 & NCL3) and send to receivers. The Router should not change the file.
* The Remote Receiver has to request file to router, then it will connect to NCL and check the file in network central locations & then send to receiver.
* If receiver enters the file name and secret key, is correct then the receiver is getting the file response from the router or else he will be considered as an attacker .The receivers receive the file by without changing the File Contents.
* The Attributes are File Management, Finding the file in network central locations, Cooperative caching, disruption tolerant networks, data access, network central locations, cache replacement and ,Attackers, Network Mode

**Non – Functional Requirements**

Non – Functional requirements, as the name suggests, are those requirements that are not directly concerned with the specific functions delivered by the system. They may relate to emergent system properties such as reliability response time and store occupancy. Alternatively, they may define constraints on the system such as the capability of the Input Output devices and the data representations used in system interfaces. Many non-functional requirements relate to the system as whole rather than to individual system features. This means they are often critical than the individual functional requirements. The following non-functional requirements are worthy of attention.

**The key non-functional requirements are:**

* Security: The system should allow a secured communication between Sender, Router and Receiver.
* Energy Efficiency: The Time consumed by the Router to transfer the File’s from the Receiver.
* Reliability: The system should be reliable and must not degrade the performance of the existing system and should not lead to the hanging of the system.