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Metal Cloud: LoRaWAN based Wireless Connect Battery Operated Handheld Storage Drive

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ABSTRACT: Recent advances in Internet-of-Thing's technology have opened the doors to new scenarios for biosensor applications. Flexibility, portability, and remote control and access are of utmost importance to move these devices to people's homes or enterprises. More external hard drives and pen drives appearing, more issues are reported by users. Also, many users reported that their external hard drive keeps disconnecting in Windows 10. Some specific models also have issues. In case you have some important data that has been affected by infected files, viruses or malware, you surely will need a good protection. Protect from file loss, malware, hardware failure.In this project, an innovative wireless handheld storage device manned Metal Cloud is a wireless flash disk is presented. Metal Cloud Model include machine learning workloads, query-intensive data warehouses, and ingestion and processing of IoT sensor data. When connected with power supply, can be used as wireless storage. Backup phone contacts and photos.

It can back up data to cloud storage providers with the Dashboard software. With that program, one can access their files on the hard drive via the web. No longer have to connect your drive to your PCs to transfer data, since the device also supports both Android and iOS. Then users can also transfer files between other cloud services. You can also attach, detach, swap, and edit volumes. The hard drives give you remote file access, extra cloud storage and have handy web backup options. You can add as many accounts as you like, including multiple accounts of nthe same service. To keep your accounts and files safe, the program has a master password feature. Enable it to keep unauthorized users out. You can also encrypt data with a key before uploading.

KEYWORDS : Metal cloud, SSD, HDD, CloudWithIoT, Arduinouno R3

I. INTRODUCTION

An external storage device, also referred to as auxiliary storage and secondary storage, is a device that contains all the addressable data storage that is not inside a computer's main storage or memory. An external storage device can be removable or non-removable, temporary or permanent, and accessible over a wired or wireless network.External storage enables users to store data separately from a computer's main or primary storage and memory at a relatively low cost. It increases storage capacity without having to open up a system. External storage is often used to store information that's accessed less frequently by applications running on a desktop, laptop, server or mobile device, such as an Android or iOS

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smartphone or tablet.For PCs, an external storage device often consists of stationary or portable hard disk drives (HDDs), or solid-state drives (SSDs) attached via a USB or FireWire connection, or wirelessly.

For enterprises, an external storage device can serve as primary storage connected to servers through Ethernet or Fibre Channel switches, or as secondary storage for backup and archiving purposes.. External storage offers HDD, all-flash and hybrid storage arrays for block-based, file-based or object storage, or a mix of these three protocols known as unified storage. Storage area networks (SANs) for block-level storage and network-attached storage (NAS) devices for file-based storage are examples of external storage.Another common use case for an external storage device is to transport data between on-site and off-site computer systems.

II. RELATED WORK

Programs written using Arduino Software (IDE) are called sketches. These sketches are written in the text editor and are saved with the file extension. Ino. The editor has features for cutting/pasting and for searching/replacing text. The message area gives feedback while saving and exporting and also displays errors.The console displays text output by the Arduino Software (IDE), including complete error messages and other information. The bottom righthand corner of the window displays the configured board and serial port. The toolbar buttons allow you to verify and upload programs, create, open, and save sketches, and open the serial monitor.NB: Versions of the Arduino Software (IDE) prior to 1.0 saved sketches with the extension. pde. It is possible to open these files with version 1.0, you will be prompted to save the sketch with the. ino extension on save.

III. PROPOSED ALGORITHM

In this project, an innovative wireless handheld storage device named Metal Cloud is proposed. MetalCloud, a wireless, portable storage solution, allows users to expand the number of documents, images, music and video files they can access remotely from any devices. The combination of this storage expansion, file sharing and a rugged portable form factor makes it a perfect companion device. Metal Cloud device include machine learning workloads, query-intensive data warehouses, and ingestion and processing of data with IOT.It can store, transfer and back up data to cloud storage providers and metal cloud with the Dashboard software. With that dashboard, one can access their files on the hard drive via the web. MetalCloud allows users to stream videos, access music or share files with other through web link distinctively designed, pocket-sized MetalCloud utilizes Flash-based technology to store data from PCs or Mobile. These files are then easily retrieved via Metal Cloud's built-in wireless signal without requiring cables.

IV. SIMULATION RESULTS

In this project, an innovative wireless handheld storage device maned Metal Cloud is a wireless flash disk is presented. Metal Cloud Model include machine learning workloads, query-intensive data warehouses, and ingestion and processing of IoT sensor data.Upload, download, save, share and play all your stuff from a distance, to and from the device you want to use. Launch an Internet browser and go to specified http link to access the MetalCloud Drive content. Use mobile device or computer can wirelessly access content on MatalCloud and at the same time remain connected to the Internet as long as a wireless Internet network is available.MetalCloud also lets you connect to wireless hotspots eliminating the need to physically connect an Ethernet cable to a network device.

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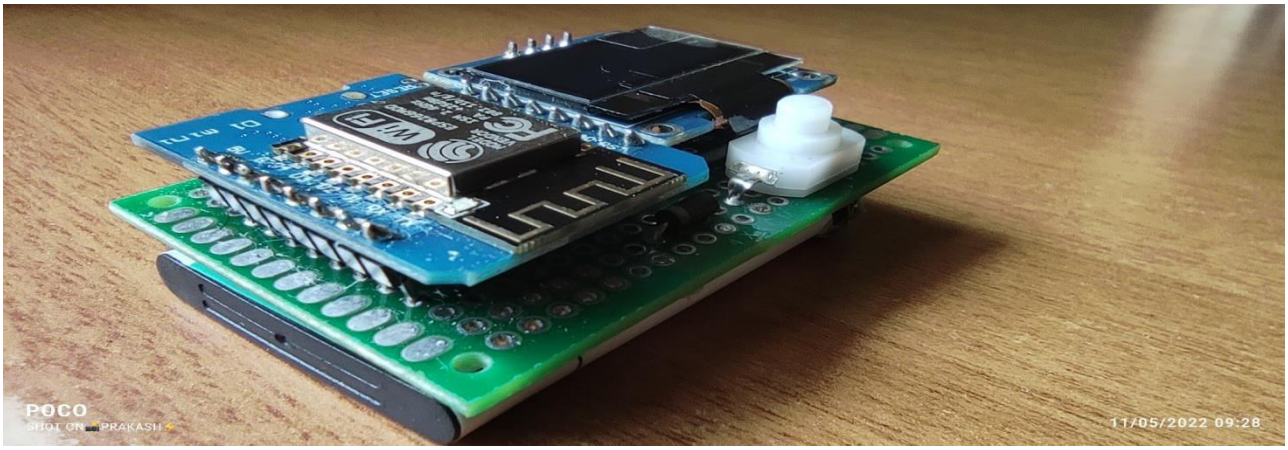

Fig 4.1METAL CLOUD

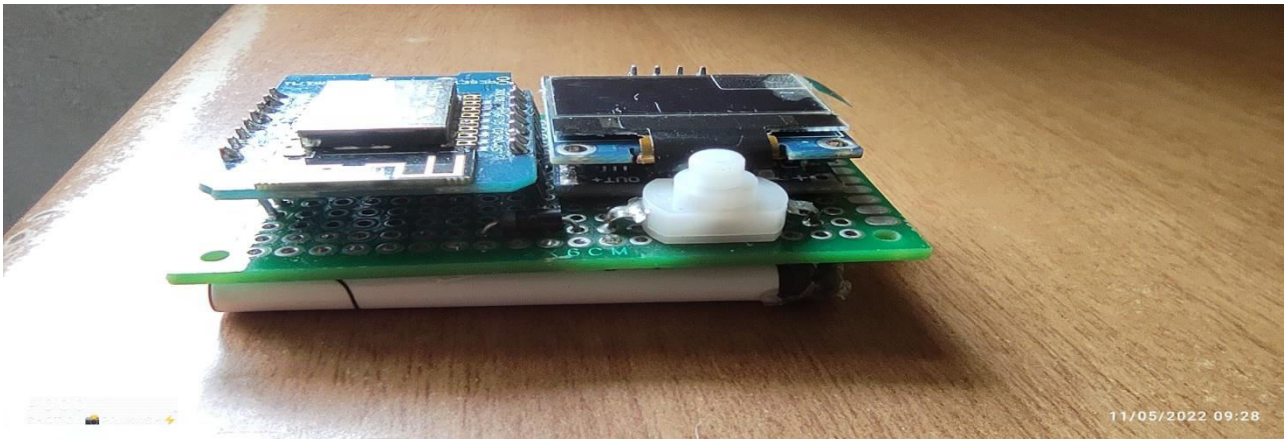

Fig 4.2 METAL CLOUD

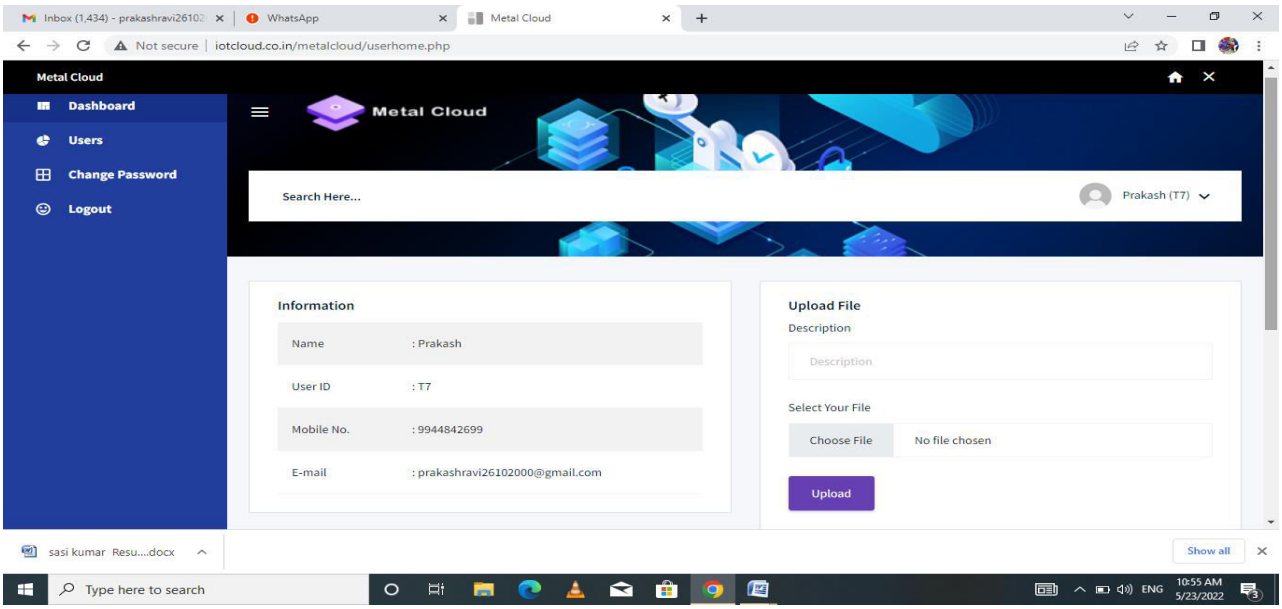

Fig 4.3USER INTERFACE

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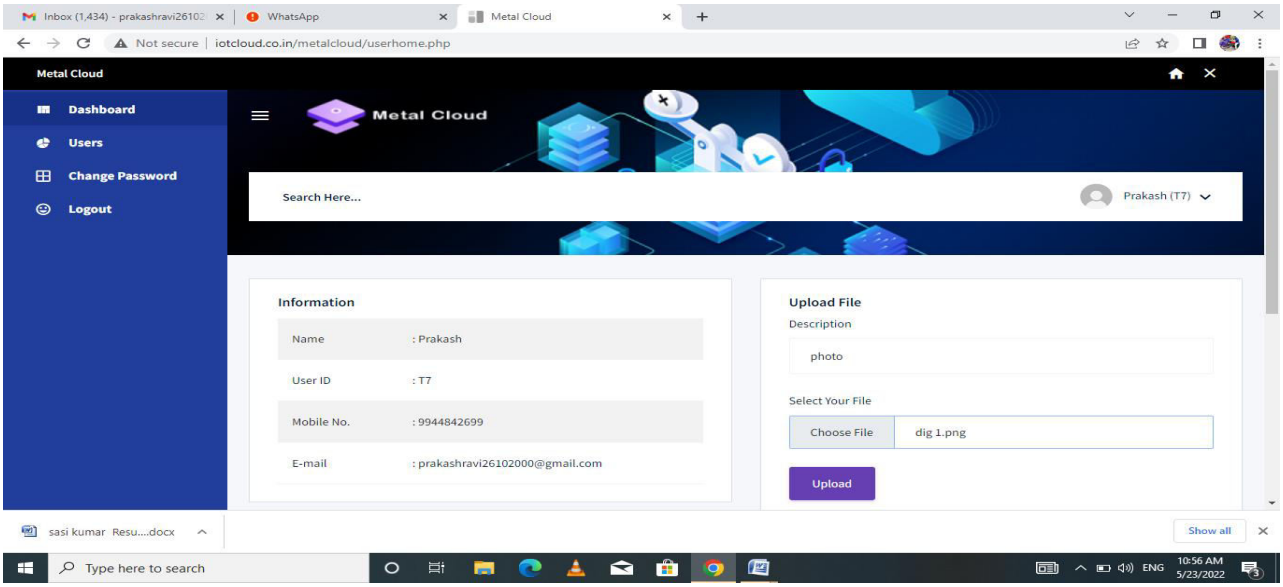

Fig 4.4UPLOAD FILE

V. CONCLUSION AND FUTURE WORK

This project proposed a model to convert the fat system into a slim-system called MetalCloud. This project's main contribution is the use of analysis techniques consisting of static and dynamic for extracting the application data and generating hardware profiles. The motivation behind live MetalCloud data migration is - load balancing, proactive fault tolerance, power management, resource sharing, and online system maintenance. We identify the types of contents that need to be migrated during migration which are CPU state, memory content, and storage content. The proposed model motivates the research on lightweight virtualization environment, and it is possible to apply MeatlCloud into the pre-deployment process of the existing cloud environment. We conducted extensive experiments to evaluate MetalCloud in terms of response time, network bandwidth consumption, application performance and the overall system overhead on several popular devices under different virtualization and network environments.

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