

# Project Proposal

**Title : Shared Cloud Storage**

## Team Members

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## Project Objective

The objective of our project is to create a platform that can be used as a cloud storage and data sharing platform, without an actual server. The storage space is a shared space among hosts and by the hosts and for the hosts.

## Description

- **Storage:** Each host allocates a space that will be used by to store files for sharing. (Decentralised Storage). Each host can inturn use the combined space depending on the availability.
- **Upload:** A user wanting to share a file in the network would upload the file. This file will then be stored on one of the hosts depending on the available space (or split among user if not enough space in one host).
- **Download:** Each user can see the available files on the network depending on the online hosts. The user can then choose which file he wants to download.
- **Management/ Control :** The platform is decentralised and there is no single controller or moderator. The network will work on the mutual understanding of host and protocols to ensure fairness among the users.

## Modules

**Networking :** Server creation that will allow file upload, download and availability. (No actual server. Each host is both a server and client).

**Efficient Storage Algorithms :** Since the storage is split across multiple hosts, we need to find out ways to utilise the storage in an efficient manner. Storage is a vital resource in our platform.

**Efficient File Transfer Algorithms :** We want to maximise the network utilisation to achieve the best file transfer speeds. The files are stored across multiple hosts, which will allow us to create a sort of P2P network to share files. We will look into ways to introduce parallelism to increase efficiency even further.

**Note: Work will be split equally among the team members.**

## Software and Tools

We will be using **python** to develop the platform. Standard **networking libraries** like sockets and **thread libraries** will be used.

Note: More tools might be used if deemed necessary as we make further progress.

## List of deliverables

We have one deliverable - **The platform/ software/ Tool.**