**Bucket network**

**Abstract**

Security is considered as an important issue in all the web applications. Especially in a wireless communication medium, there is an increased possibility of security threats. Though many new technologies have been developed to overcome all the problems, still hackers find a way to crack all the security levels.

Bucket network is a web application for secure message transmission and cloud storage. The main emphasis is to make sure all the messages are transferred safely without any breach. In addition there is a secure cloud repository to upload and download files.

The whole application is built with PHP as the server side scripting language. MySQL provides the database storage. To enhance the look and feel , Materialize CSS framework is used . A notable point is , Bucket Network is mobile compactible.

There are various levels of application level security and storage level security embedded in this web app. First of all each and every user need to register to access the resource. Not all people can register, only users with and ACCESS CODE (provided with the administrator) can sign up. An important feature of this web app is that, all users are registered with their unique device IP address. This ensures that, the users account cannot be accessed from any foreign devices. Each user details are validated and saved in the database. The user passwords are saved using MD5 technique which makes it secure and private. A captcha verification is added to prevent access by bots. Users can upload their files to the cloud and view all the files in the cloud based on the provided access. A secure message transmission feature is made available to the users for communication. The message send by one user is encrypted using the BLOWFISH algorithm. Along with the message a secret key is provided by the sender. The receiver can view the message by correctly entering the secret key.

Thus Bucket Network guarantees high Security in terms data communication and file transfer.