Syftbox: Building Collaborative Apps with Secure Permissions

Welcome! **Syftbox** is a new platform that empowers users to develop, share, and collaborate on applications in a shared, synchronized environment. Here's what you need to know to get started:

Key Features:

1. **User Sync Folder:** Every Syftbox user gets a root sync folder (similar to Dropbox). This folder automatically but conditionally (respecting Syftperms, see below) syncs between your devices and the server, making your files and apps accessible from anywhere.
2. **SyftPerms: Fine-Grained Permission Management:** Every folder in your root sync folder has a `_.syftperm` file that allows detailed control over file permissions. Using UNIX-style permissions, you can specify read, write, or admin access for each user or group.
3. **Apps Folder:** Inside your root sync folder, you'll find an `apps` folder – any run.sh file in there will be called periodically. For more advanced usage, you can clone any GitHub repository containing your custom application into this folder. Thus each app is a piece of code that will run periodically by anyone who has that app installed. Look at Resources & Examples below.
4. **Joint Computation on Apps:** When multiple users install the same app (in their `apps` folder), Syftbox enables joint computation, securely pooling resources to process data collaboratively. This is ideal for projects requiring distributed computing or when teams need to share data securely while running computations together.

Getting Started:

Here are a few ideas to get started:

1. **Run Syftbox:** Run this command `curl -LsSf https://syftbox.openmined.org/install.sh | sh`
2. **Test Syftperms:** Send private messages to other members or privately share files with only a group of people.
3. **Test Writing Apps/Collaborative Computation:** See if you write an app and run it between a group of Syftbox members to see if you can get some aggregate information over private data.

Resources & Examples:

Some apps for inspiration:

1. Adder app:
2. Ring app: Run computation in a circle (hence ring!) dining cryptographer's style.
3. FL Ring: Doing Federated Learning using Syftbox.
4. Ring DP: Adding differential privacy to the non-privacy preserving ring app.
5. Resource monitoring: Simple app to monitor your resource usage using external libraries
6. Private aggregation: Privately average json data (with a hybrid of SMPC and HE style privacy)
7. Ring HE: Extending Ring app to aggregate data using Homomorphic Encryption.
8. Public Key Crypto: Setup some fun metadata for your datasite and publish your public key.

Syftbox is designed for developers who need a secure, flexible, and collaborative environment to build applications and manage data. With powerful features like fine-grained permissions and joint computation, Syftbox ensures that your projects can scale, while still giving you full control over who can access your data and run your apps.

Join the Syftbox community today, and unlock the full potential of your projects!