Online File Sharing System

For sharing music, videos, documents etc through a single window

Executive Summary

Online file sharing system provides a single interface capable of sharing music, videos, documents and other files up to 2 GB. User will be able to add/remove files and upload to Simple Storage Service provided by Amazon and deliver to the recipients by email with the respective download link. It offers a very reliable, fast & secure data transfer medium through web without any expense.
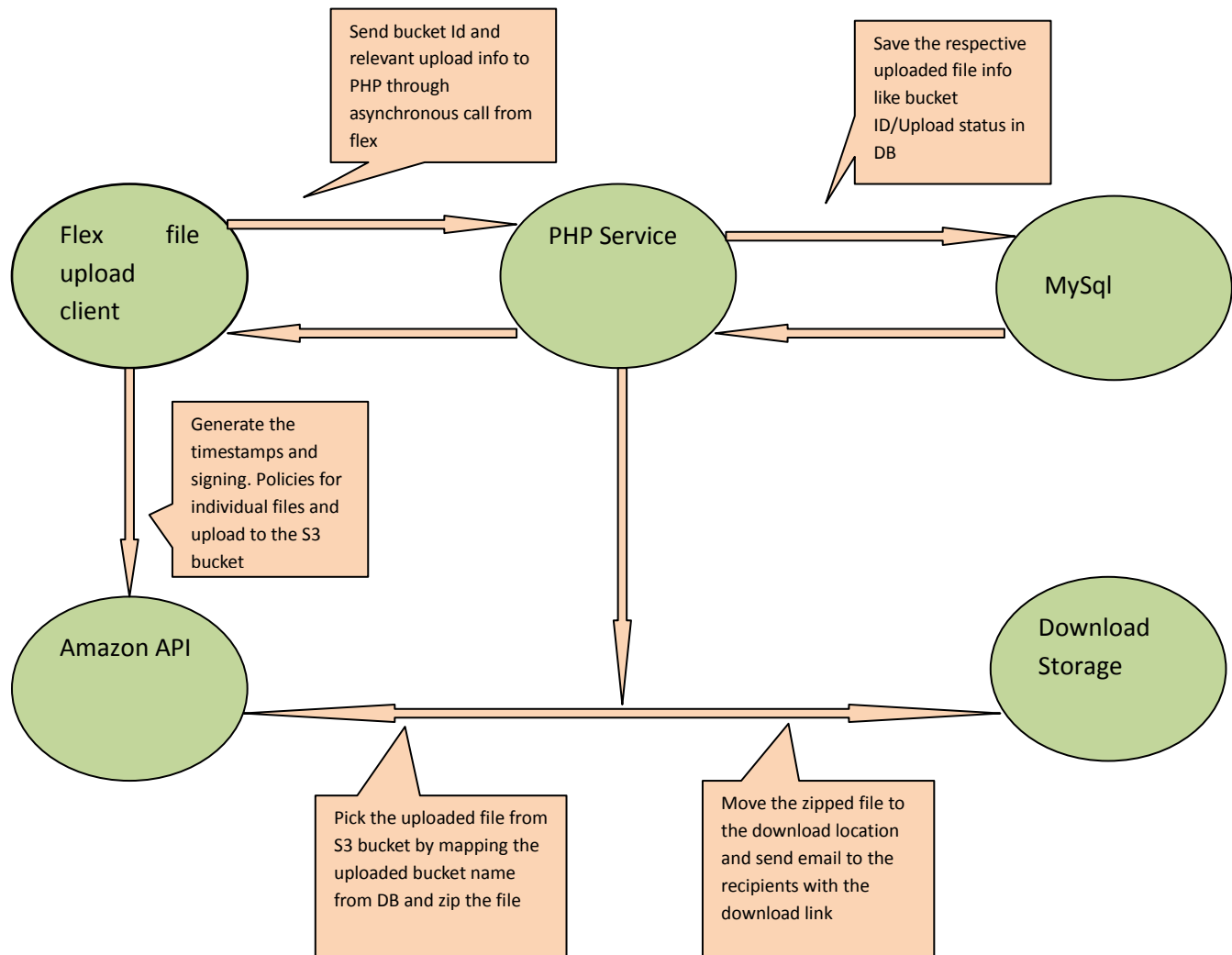
Business Situation

The primary goal to achieve while building the process was to interact with Amazon S3 API from Flex client and upload file to the desired location called as Bucket. Buckets are created with some predefined standards and certain protocols provided by Amazon API. Flex client interacts with the Amazon API through RPC by certifying all the security concerns and uploads the file using the process called Cloud Computing. After completion of this process PHP interacts with the uploaded file by mapping with the uploaded bucket name from Flex and zips the file, irrespective of whether there are single or multiple files. Then it transfers the zipped file to the download location and deletes the existing bucket. After that it conveys the recipients through email, with the messages being posted from the sender that the file is ready to download. It keeps the downloadable file up to 2 weeks and then automatically removes it.

About our Client

Client Online File Sharing System | **Location** US | **Industry** Media Content Distribution

Architecture Diagram

Send bucket Id and relevant upload info to PHP through asynchronous call from flex

Save the respective uploaded file info like bucket ID/Upload status in DB

Flex   file upload client

PHP Service

MySql

Generate the timestamps and signing. Policies for individual files and upload to the S3 bucket

Amazon API

Download Storage

Pick the uploaded file from S3 bucket by mapping the uploaded bucket name from DB and zip the file

Move the zipped file to the download location and send email to the recipients with the download link
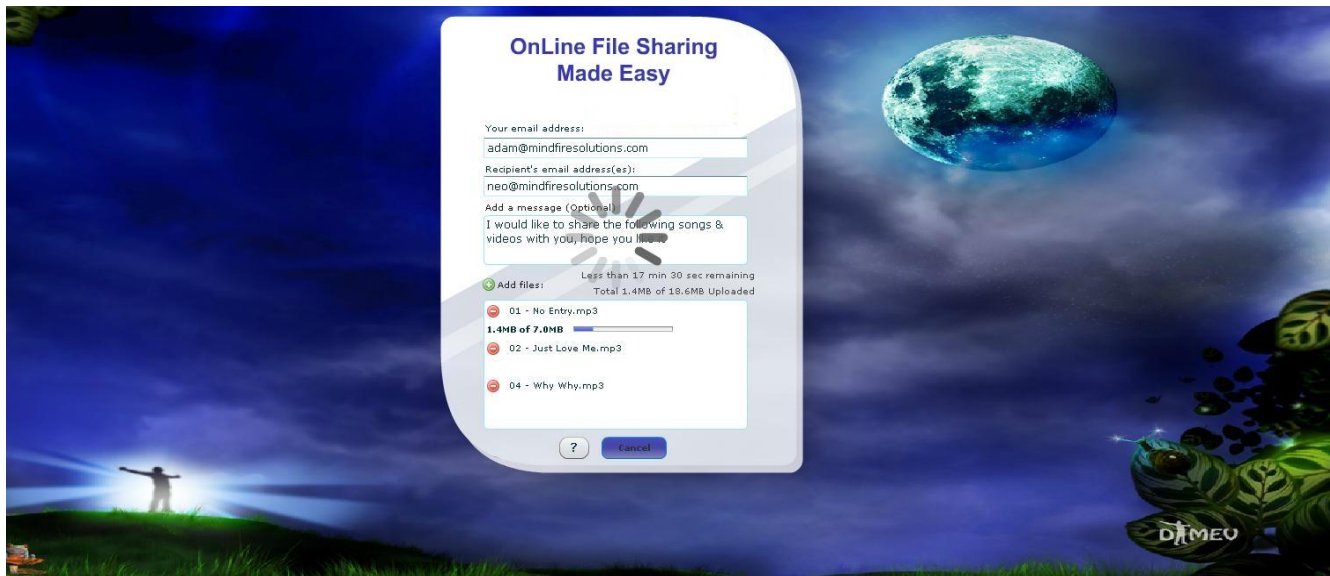
Application workflow

The application can be categorized into few segments like

- ✓ File Uploading Section
- ✓ Add Display
- ✓ File Zipping, moving to download location & email delivery
- ✓ Upload confirmation section and re uploading

✓ File download section
✓ Data Encryption & Decryption

- **File Uploading Section**

The above figure displays the file uploading section where user can enter the sender's and receiver's email with validated inputs.

User can add multiple emails separated by comma or semicolon to send the same bunch of files to multiple recipients. The message box contents can be sent in email to the recipients describing any info about the files or any messages which can be delivered to the recipients with downloaded link.

User can select single or multiple files at a time with duplicate check and boundary value of size 2 GB. The selected files can be displayed in the list as shown in the figure and can be removed or added again according to user preferences. By clicking on the transfer button the upload process gets started and files start moving to the API location named as bucket. User can cancel the upload process at any moment while uploading by clicking on the cancel button which asks user to confirm the cancel process. The progress bar shows the upload status for individual files (when the upload process goes on) and the timer displays the time remaining for upload completion and size that remains to be uploaded.

- **Add Display**

Add display section is capable of pulling the respective ad images and text contents from XML and rotate with transitions one after another. The image has the appropriate link to the ad location or web site which user can navigate by clicking on the image content and invoking the add URL in new tab.

- **File Zipping, moving to download location & email delivery**

After completion of upload the S3 API confirms the status whether the files uploaded successfully or prompt any error in flex UI if any exceptions happen during uploading. Once the upload gets completed, PHP interacts with the S# API and hits the bucket to which the file uploaded recently from flex. It picks that file, zips it and moves to the download location along with sending email to the recipients with the download link. User has the option to download that file at any time within 2 weeks of email delivery. Then the down loadable files are removed automatically.

- **Upload confirmation section and re uploading**
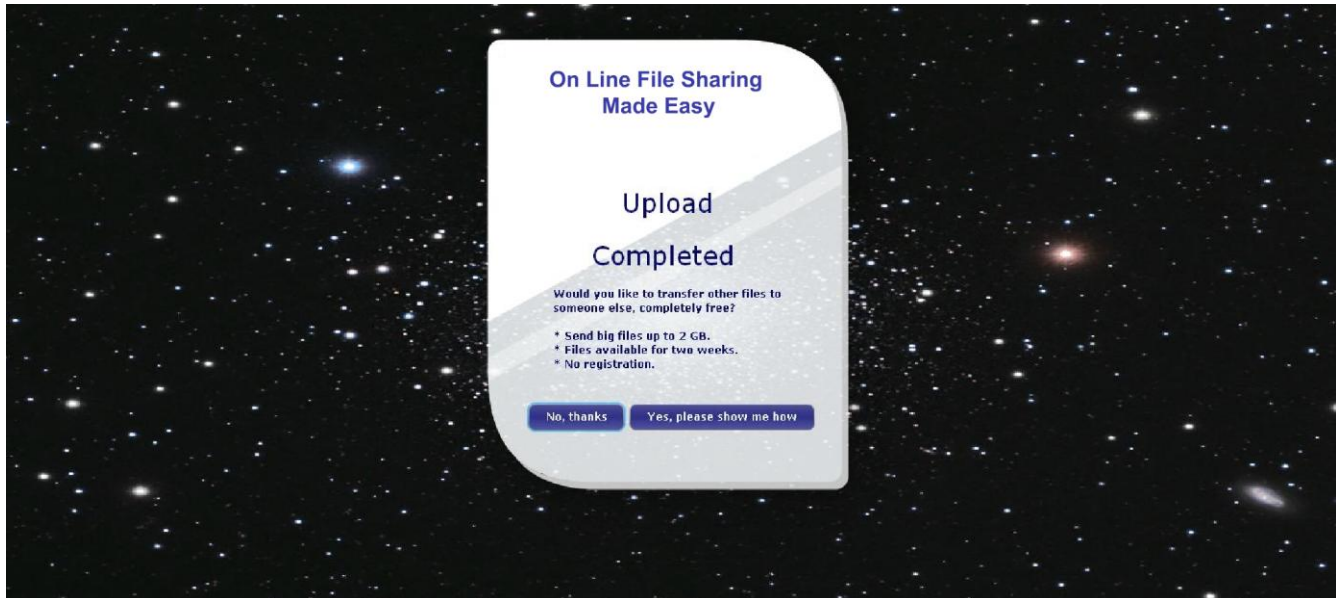
After successful upload of all the files the view moves to a new window confirming user that the upload has been completed successfully and the email will be delivered shortly. User can quit the application or move to the upload section for uploading new files. The mails can be sent separately for each new uploads.

- **File download section**
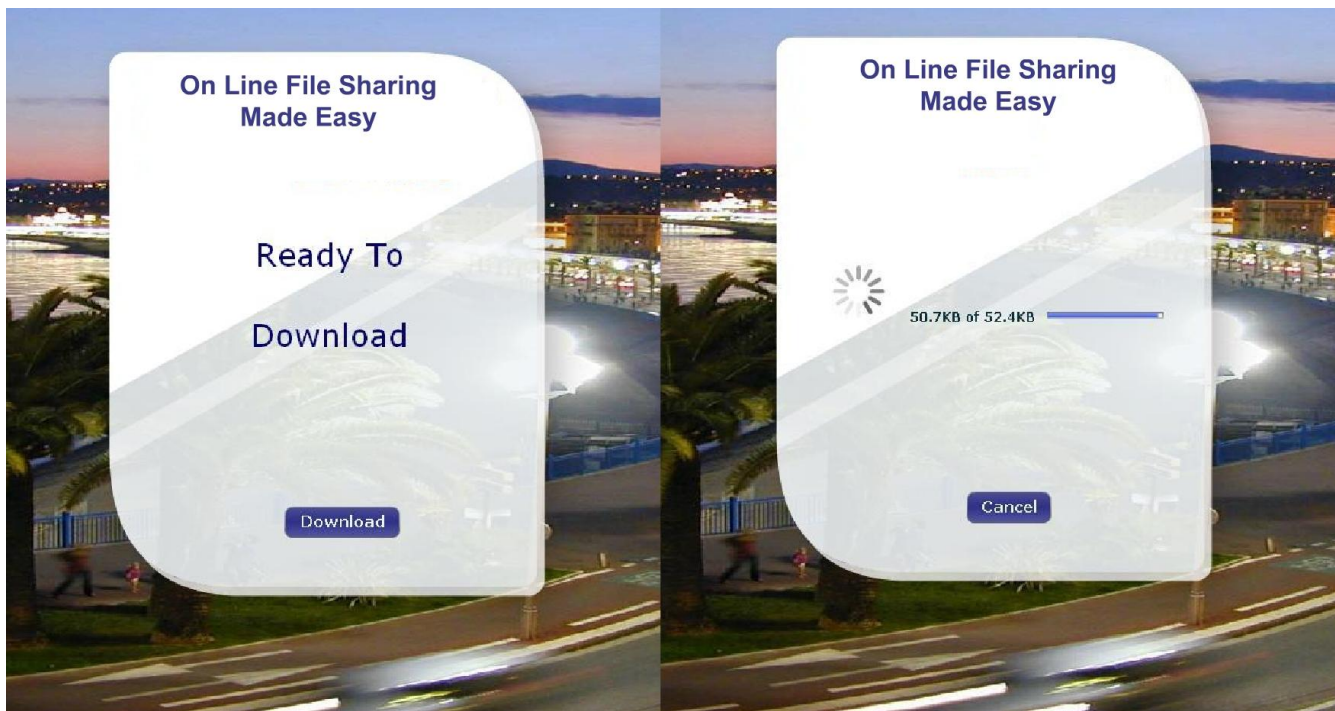
The file download section can be launched from the link sent to the recipient's email. This link contains respective downloaded file info with encrypted string appended after the URL. After opening the URL in browser, flex communicates with the address bar info and decrypts the data which results the downloaded file link and it asks user to download the file. User can download the file by clicking on the download button to start the process. However the download process can be cancelled by clicking on the cancel button at any moment of download process. The download progress bar signifies the download status and size of data to be downloaded.

- **Data Encryption & Decryption**

We are using cross platform data encryption & decryption which is key based. The data can be encrypted in flex client and decrypted in PHP & vice versa with the relevant key and obeys base64 encryption/decryption policy. So that none of the information can be exposed and this makes the system more reliable & secure.

Technologies

Flex, PHP, Amazon S3 API Architecture, Cloud Computing

User Benefits

The application provides simple user interface which can store and retrieve large amount of data up to 2GB at anytime and from anywhere through web. It is the most reliable, secure and inexpensive medium for sharing data and can be operated easily by anybody. As the application supports Cloud Computing it reduces redundancy Storage (RRS). RSS is a storage option within Amazon S3 that enables customers to reduce their costs by storing non-critical, reproducible data at lower levels of redundancy than Amazon S3's standard storage. It provides a cost-effective, highly available solution for distributing or sharing content that is durably stored elsewhere.

Future relationship

The client was pleased with Mindfire's effort and reckoned that they were happy to have discovered a professional offshore IT unit. We shall continue to be the service provider for the next versions of the client's product. They have not only allocated the support and maintenance work of the current system to Mindfire but have also chosen us for future customization work.