**Storage Connector**

**Alexandro Bolfa 331500**

**Steen Krøyer**

**3241 characters**

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# Problem Domain

Nowadays people and companies rely on multiple cloud storage solutions such as Google Drive, OneDrive and SharePoint to store and manage their files for having more secure data, less latency, cost efficiency and accessibility from everywhere with an internet connection (Barry, P.). However managing data across multiple platforms can be challenging because of inconsistent interfaces and difficulty in retrieving relevant files efficiently (Gartner). Because of that users often need to switch between multiple services, leading to loss of productivity.

The project aims to address the issue of separated cloud storages by developing a web application that merges and organizes files from various cloud services into a single interface. The application will allow users to connect their cloud services and view all stored files in a single dashboard, streamlining improving access and workflow efficiency.

# Problem statement

Users loose time and concentration when they need to jump between different cloud platforms to find, preview, or open files.

* How can all documents from multiple cloud services be shown together?
* How should the user search and filter across all files in a simple way?
* How can the user’s safety and privacy be preserved without complex user experience?
* How can the working flow of the user be preserved?

# Delimitation

This project will focus only on integrating three major cloud storage providers: Google Drive, OneDrive, and SharePoint. Other cloud services e.g. Dropbox and iCloud will not be included in this phase. The application will provide read-only access to files initially. Editing and file-sharing features will be considered for future development. Security measures will focus on OAuth authentication, but advanced security protocols like end-to-end encryption will not be covered in this project.

# Choice of methods

The project will combine Unified Process for overall structure with Kanban for day-to-day execution. Unified Process provides clear phases, Inception, Elaboration, Construction

# Time schedule

27.5 hours per week are expected to be invested in the creation of this project. This means a total of approximately 300 hours. The time schedule will be:

* Week 1-2: Prepare integration setup for Google Drive, OneDrive and SharePoint APIs.
* Week 3: Design UI mock-ups and finalize architecture.
* Week 4-5: Develop backend API integrations.
* Week 6-7: Implement frontend interface and authentication.
* Week 8: Testing, debugging, and final revisions.
* Week 9-10: Documentation and project submission.

# Risk assessment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Risks** | **Likelihood** | **Severity** | **Impact Score** | **Mitigation Strategy** |
| API access limitations | 2 | 4 | 8 | Use alternative APIs or adjust integration scope |
| OAuth authentication issues | 2 | 3 | 6 | Research OAuth 2.0 best practices and test thoroughly |
| Delayed cloud provider responses | 3 | 3 | 9 | Allow buffer time in development schedule |
| UI/UX usability challenges | 2 | 4 | 8 | Conduct early usability tests and iterate based on feedback |

# References

* Barry, P. (24.12.2023). Retrieved March 21 from Adivi [Why is Cloud Storage Important for Businesses?](https://adivi.com/blog/why-is-cloud-storage-important-for-businesses/)
* Gartner. Retrieved March 21 from Gartner [Multicloud Strategy](https://www.gartner.com/en/information-technology/glossary/multicloud-strategy)