# DATASHARED

# Project Datashared

Atos IT Challenge 2017

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This brief document presents the business model, the technical aspects and the benefits for all parties of Datashared.

## The product

Datashared is the personal cloud storage platform of the future. Distributed, safer, faster and cheaper. We do not use central servers as in today's solutions. The files are cut into small parts, encrypted and then stored in multiple copies on different disks of the network. These disks belong to the users contributing to the network by lending their free disk space for money. Blockchain allows us to guarantee the integrity of these files.

## Customer segment

We face a two-sided market: the individuals and companies in need of cloud storage on the one hand and the ones willing to share their free storage on the other hand.

The first group is composed of customers desiring ultra-secured data storage. It could also be a company for which setting up a whole storage system is too expensive. Datashared, with its high speed and low cost solution, is perfect for them. To see a comparison of Datashared with the current major cloud storage solutions in terms of security and speed, please refer to Appendix 1.

The second group is anyone, individual or company, having free hard drive space or willing to make money by renting unused hard drive space.

This value proposition offers something new compared to all the current major cloud storage.

## Revenue streams

To start the launch of our project we will put at the disposal of our new users free gigas. Those one will be provide by Storj, our potential backend (cf. Product development). With those free gigas, customers will get acquainted with our platform and system. This will allow us to create the community of users that we need in order to have enough storage space to rent to the other group of people. This other group are the users who will need more cloud storage capacity than the basic

one that we offer. They can opt for a monthly plan that fits the best their needs in terms of volume of storage needed.

The enterprises will definitely need a lot of storage space. Therefore, they will opt for one of our payable options.

To sum up, "Datashared" is an intermediary platform between the tenants and tenders of storage space. Users having space left on their hard drive can rent a portion of that space to users in need of storage space. On each transaction between tenders and tenants, Datashared will earn a fee.

## Technical aspect

Here are some technical explanations on how the outstanding characteristics of Datashared are obtained.

- Faster: the peer-to-peer network lets the user download quickly many tiny file parts from different hosts. The original file is then decrypted and reconstructed locally.
- Safer: the files are encrypted with a public-private key pair which means only the owner of the file can decrypt it. Furthermore, each file operation in the network is recorded on a blockchain. So, if any file is altered, the network will reject the corrupted file and an original copy will be considered.
- Cheaper: no huge data centers means much lower cost structure.
- Anyone can make money: if a user has free space on his hard drive disk, he can join the network and rent it to earn money. No worries if he is not always online, the files he will host are always duplicated on other nodes of the network to ensure 100% availability.

## Product development

The first step was the redaction of the product specifications. Based on these, we are currently building an interactive prototype with the tool InVision and some mockups (see Appendix 2). We aim to make this prototype tested by random users in order to receive feedbacks and validate the product. Once this is done, we will start the product development.

Concerning the architecture of the product, we want to use Storj as backend. Storj is an object storage platform for developers and businesses. It will handle the shredding of the files in multiple parts, their encryption/decryption and the registration of each new file in the cloud on the blockchain. The integration of Storj in our web app will be seamless thanks to the available Storj REST API. So, at first, we will mimic the Dropbox – Amazon Web Services model, where Dropbox (Datashared here) focuses on the product and the proposition for the final customers while Amazon Web Services (Storj here) provides the infrastructure. Afterwards, as Storj is open-source, we will be able to tune some parts of the system to meet our requirements more precisely.

# Market size

Cloud services are more and more used in companies, as well as for private use. The worldwide cloud market will surpass $200 billion by the end of 2016 (Gartner, 2016).
In 2010, companies were only utilizing 28% of their storage capacity on average. 34% of them would like to increase their own (Mearian, 2010). Those data show us the huge size of the market. However, we would like to target the European market to begin, where, already in 2012, more than 65% of the businesses were using cloud services (Bradshaw, 2012).

# Ecosystem

To get a better sense of the cloud storage's market and to foresee the coming evolutions and threats, we elaborated a PESTEL analysis (analysis of the macro-environmental factors, see Appendix 3). We think that data security and IT infrastructure cost reductions will be two major players in this sector for the coming years. Concerning the internal analysis, a major threat for the project would be that the Storj project, on which Datashared relies, stops its activity. However, as Storj is open-source, recovery could be possible.

# Legal questions

The launch of our project raises some legal questions in terms of confidentiality and security. Datashared will have to conform to the obligations of data protection on privacy contained in the different national legislations. By using the blockchain technology coupled with encryption, Datashared will provide the most secure system in terms of privacy. Therefore, content that is private will stay absolutely private.

Furthermore, as our platform is completely decentralized, we have no control on the content of the files. Files containing illegal information will be ethically condemned by our platform but we cannot be held responsible. We will ask our users to sign our Terms of use in which they guarantee us that the files that transit through our platform won't contain any illegal or unethical information.
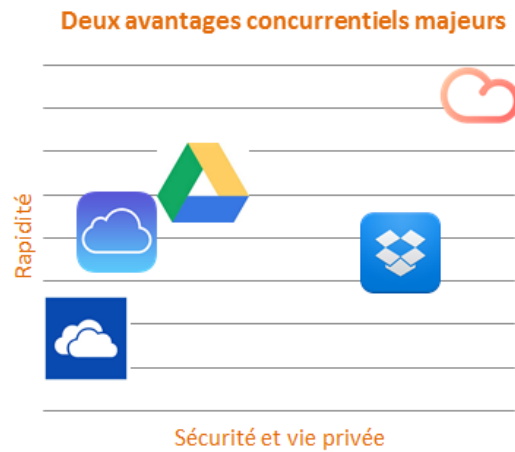
# The team

The biggest strength of our team is its multidisciplinary; we all come from different backgrounds. We met each other the beginning of our master's degree in entrepreneurship at the Université Catholique de Louvain and have worked together on several projects since then.
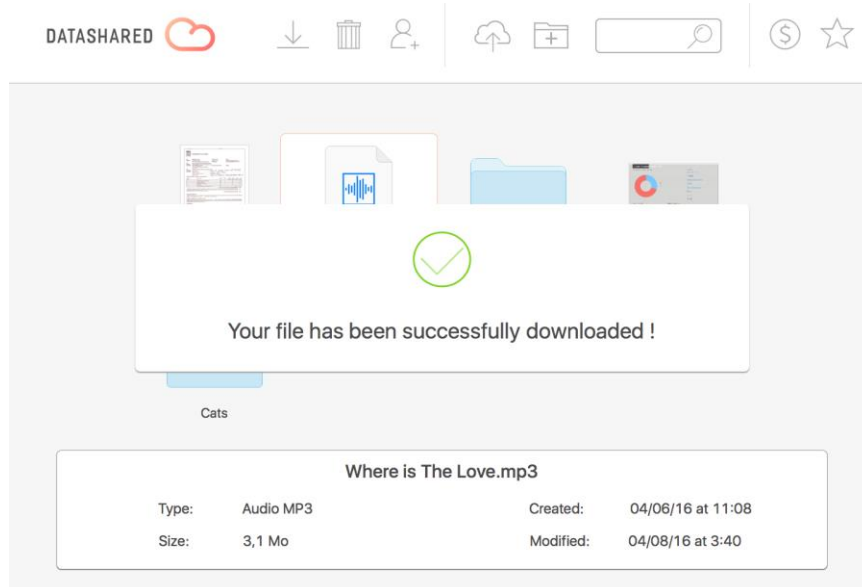Thomas is studying Computer Science Engineering in networking and security and had professional experiences in consulting and startups. Priscilla is studying Management and has international experiences. Charles is studying Business Engineering and was member of an entrepreneur club in Belgium. Sophie is studying Law and has several professional experiences in law firms.
This gives us a broad view on all the aspects of the projects and allow us to discuss strategic decisions with expertise.

# Appendix 1 - Competition analysis (security and speed)

Deux avantages concurrentiels majeurs

Rapidité

Sécurité et vie privée

# Appendix 2 - Mockups

DATASHARED

Cats

Where is The Love.mp3

| Type: | Audio MP3 | Created: | 04/06/16 at 11:08 |
| Size: | 3,1 Mo | Modified: | 04/08/16 at 3:40 |

Your file has been successfully downloaded !

# Appendix 3 - PESTEL analysis

# Bibliography

Bradshaw, D. 2012. **Cloud in Europe: Uptake, Benefits, Barriers, and Market Estimates.** IDC, <http://cordis.europa.eu/fp7/ict/ssai/docs/study45-workshop-bradshaw-pres.pdf>, consulted on 29-11-16.

Ferguson, S. 2016. *Public cloud market worth worth $208 billion by end of 2016.* Information week, <http://www.informationweek.com/cloud/public-cloud-market-worth-$208-billion-by-end-of-2016/d/d-id/1326923>, consulted on 28-11-16.

Mearian, L. 2011. *Survey finds storage systems underutilized as companies add more capacity.* Computerwolrd, <http://www.computerworld.com/article/2518591/data-center/survey-finds-storage-systems-underutilized-as-companies-add-more-capacity.html >, consulted on 28-11-16.