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## BACHELOR SPRING PROJECT

HE-ARC 2016

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# Overclouds

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April 24, 2016



### Abstract

Overclouds is a project whose goal is to create an anonymous and decentralized internet data sharing service right through the browser.

# 1 Description

## 1.1 English

The initiative behind the project is to create a new generation of internet data sharing tools, suited for today's paranoia for privacy on the internet and the preservation of knowledge for the next humanity generations.

The idea is to give the ability to the user to not rely on corporate servers, or farms of servers anymore. On Over Clouds, everybody and everything are now anonymous nodes, and they connect one to another freely and anonymously.

The network is a democratic mesh of nodes. The data is moving from a node to another across the network via other nodes and is ruled by the consensus of users.

We are aiming that users only need to have a standard Internet connection and a browser with JavaScript capabilities to use the service.

## 1.2 French

Must to the translation when the English part is validated

# Contents

<b>1</b>	<b>Description</b>	<b>1</b>
1.1	English . . . . .	1
1.2	French . . . . .	1
<b>2</b>	<b>Preface</b>	<b>4</b>
2.1	Introduction . . . . .	4
2.2	The Big Picture . . . . .	4
2.3	Objectives . . . . .	4
2.4	Specifications . . . . .	4
2.5	Management . . . . .	4
2.6	State of the Art . . . . .	4
2.6.1	Similar products (Existing Networks) . . . . .	4
2.6.2	Transfer Protocols . . . . .	4
2.6.3	Protection . . . . .	5
2.6.4	Cryptography . . . . .	5
2.6.5	Hardware . . . . .	5
2.6.6	Block-Chains . . . . .	5
2.6.7	Decentralized applications . . . . .	5
2.6.8	Reputation Management . . . . .	5
2.6.9	Operating Systems . . . . .	5
2.6.10	Technologies . . . . .	5
<b>3</b>	<b>Analyses</b>	<b>5</b>
3.1	Communication . . . . .	5
3.2	Cryptography . . . . .	6
3.2.1	Compare . . . . .	6
<b>4</b>	<b>Implementations</b>	<b>6</b>
4.1	Communication . . . . .	6
4.2	Cryptography . . . . .	6
<b>5</b>	<b>Evaluation</b>	<b>6</b>
5.1	Tests . . . . .	6
5.2	Results . . . . .	7
5.3	Technologies Recommendations . . . . .	7
<b>6</b>	<b>Conclusion</b>	<b>7</b>

<b>7</b>	<b>Bibliography</b>	<b>7</b>
<b>8</b>	<b>Annexes</b>	<b>7</b>
8.1	JS Cryptography Library Graphs . . . . .	7

## 2 Preface

### 2.1 Introduction

TODO

### 2.2 The Big Picture

TODO

### 2.3 Objectives

TODO

### 2.4 Specifications

TODO

### 2.5 Management

TODO

### 2.6 State of the Art

TODO

#### 2.6.1 Similar products (Existing Networks)

TODO

#### 2.6.2 Transfer Protocols

TODO

### 2.6.3 Protection

TODO

### 2.6.4 Cryptography

TODO

### 2.6.5 Hardware

TODO

### 2.6.6 Block-Chains

TODO

### 2.6.7 Decentralized applications

TODO

### 2.6.8 Reputation Management

TODO

### 2.6.9 Operating Systems

TODO

### 2.6.10 Technologies

TODO

## 3 Analyses

### 3.1 Communication

TODO

## 3.2 Cryptography

TODO

### 3.2.1 Compare

Table 1: Hashing a 0-10MB File /milliseconds

Libraries	Sha1 (size)	Sha1 (hash)	Sha256 (size)	Sha256 (hash)
sjcl	—	—		
crypto-js	—	—		
forge	+	+		
crypto-browserify	++	++		
crypto-mx	null	null		
git-sha1	+++	+++		
jshashes	-	-		
russha	+++++	+++++		

## 4 Implementations

### 4.1 Communication

TODO

### 4.2 Cryptography

TODO

## 5 Evaluation

### 5.1 Tests

TODO

## 5.2 Results

TODO

## 5.3 Technologies Recommendations

TODO

## 6 Conclusion

TODO

## 7 Bibliography

TODO

## 8 Annexes

TODO

### 8.1 JS Cryptography Library Graphs

TODO



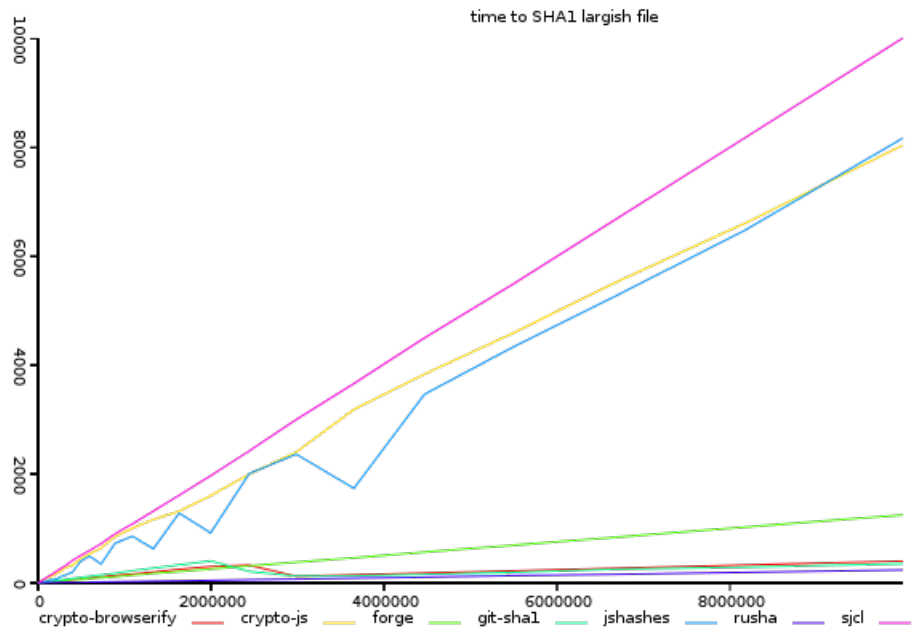


Figure 1: *y-axis shows total time taken, lower is better*

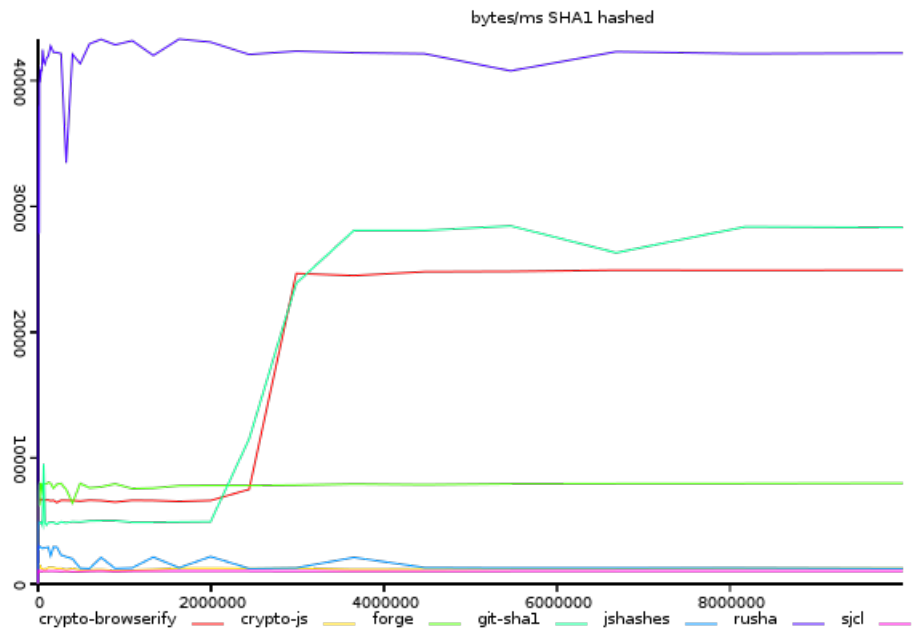


Figure 2: *y-axis shows size/time, higher is better*