

# Status Report: a free Group OTR library

Peer-to-Peer Systems and Security, Summer 2014

Markus Teich      Jannik Theiß

June 14, 2014

## 1 Current project status

First we wrote a simple chat client. We wanted to test our library without having to write a huge plugin for an existing chat application. Our client uses UNIX domain sockets and therefore is limited to chatting on the same machine. This also helps us to develop a sane and usable API for our library, so it can be easily adopted to various chat applications used worldwide. We already sketched the API and basic data structures, but did not freeze them yet in case something needs to be changed.

We analyzed the pidgin plugin proposed by the authors of gotr and found it to be very inconsistent with their paper. However, some parts helped us to understand the algorithm which is only briefly described in the paper.

We also started implementing our library. The basic functions like base64 encoding the messages already works. However the understanding of the cryptographic algorithm used for group key agreement took us some time and we just started to implement it.

## 2 Open tasks

The most time consuming task left should be the correct implementation of all cryptographic algorithms used in our library.

Also missing is the documentation of libgotr's API and usage. The group key exchange protocol has to be fixed and documented as well.

If we find the time, at the end we want to implement a plugin for a widespread chat application using our libgotr.

## **3 Finalization plan**

### **3.1 June, 16th to June 22nd**

The correct implementation of the group key agreement should take up most of the time in this week. Jannik also has to prepare the first talk.

### **3.2 June, 23rd to June 29th**

By the end of this week the crypto stuff should be done and working. Jannik presents related work and the design of our libgotr on June 26th.

### **3.3 June, 30th to July 6th**

During this week we should fix all remaining errors and bugs known to us and start with the documentation. Markus also prepares for his talk about the implementation and results.

### **3.4 July, 7th to July 13th**

Markus presents the implementation and results in class. We start writing the final report and finish documentation.

### **3.5 July, 14th to July 15th**

All open tasks should be finished and if there is nothing left to do, we will write a plugin for real world usage.