

# Cry – Project 1 (Project Plan): Presentation

2017-01-29

## 1 Motivation

## 2 Overview

- Example Use Case
- Functionality

## 3 Expectation

# Section 1

## Motivation

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## Section 2

### Overview

# Situation

- *Alice* (sender) wants to confidentially send a message to *Bob* (receiver).
- *Eve* (eavesdropper) wants to know that message.

# Procedure

## ① *Alice* (sender)

```
$ cry encrypt --cryptosystem=rsa \  
> --public-key=825 --plaintext=4692301804  
The ciphertext is 1110003333 (took 1 second).
```

## ② *Bob* (receiver)

```
$ cry decrypt --cryptosystem=rsa \  
> --private-key=637 --ciphertext=1110003333  
The plaintext is 4692301804 (took 1 second).
```

## ③ *Eve* (eavesdropper)

```
$ cry eavesdrop --cryptosystem=rsa \  
> --public-key=825 --ciphertext=1110003333  
The plaintext is 4692301804 (took 1 century).
```



## In the previous example:

- Cry is the cryptographic framework.
- RSA is a cryptosystem implemented in Cry.
- The key-generation, encryption, decryption, and eavesdropping algorithms are specific to RSA.

# In general, with Cry:

- an end-user can use an implemented cryptosystem to confidentially send and receive messages with others.
- a cryptographer can:
  - prototype her own cryptosystems where the cryptographic algorithms are either newly defined or reused from different existing cryptosystems.
  - test her cryptosystems for security and performance.

## Section 3

# Expectation

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