[[1]](#footnote-1)

Implementation of the XTEA Algorithm Utilising a DE1-SoC FPGA

Chris Holland

*Abstract*—

*Index Terms*—

# INTRODUCTION

Explain Task Set, what was given, what tools will be used.

## Motivation – Commercial Relevance

* FPGA in industry
* Cryptography Relevance in the modern day and age

## Goal of Report

* Share the path taken and explain the final solution of an FPGA implementation of the XTEA algorithm.

# Discovery

## XTEA Algorithm

* Breakdown of the algorithm, note the repeated steps and potential to save area & power on the board.

# C Implementation

* Motivation for C implementation?
* What was done & why?
* Show console output.

# FPGA Implementation

## Testbench

## Explain Limitations with given testbench

* Explain what interface is required to get a project working with the given testbench

## Structure

* Discuss proposed FPGA Structure, what instantiates what?
* Why have I selected this structure?
* Block Image of structure

## Decoding & Encoding Modules

* Link back to XTEA algorithm,

## Encoding

# Performance

## Power

## Area

# Conclusion

# References

1. [↑](#footnote-ref-1)