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| UNIVERSITY OF TROMSO |
| INF 3910 - UICC |
| Assignment 1 – TAG 4 emulation |
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| **02.05.2013** |

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# Introduction

## 1.1 Overview

In this assignment the task is to emulate a tag type 4 on a UICC sim-card. It should be possible to read and write data to the card. The implementation is required to implement the Technical specification[[1]](#footnote-1) for Tag 4, and should operate seamless toward other devices.

## 1.2 Requirements

The requirements for the assignment are as follows:

* Implement the TAG 4 emulation in a java card applet
* Install and test this implementation on an actual sim-card
* When running the test script, the implementation should have the same output as the result file posted on Fronter

Optional

* Create an Android application that communicates with the sim-card

## 1.3 Technical background

### 1.4 APDU

Something smart

### 1.5 TAG 4

Something smart

# Design

The design of this implementation is a simple state machine having the three states as shown in Figure 1

Figure - Shows the simple state machine implemented

There are basically three commands as shown in Figure 2 that need to be supported to implement emulation for the Tag 4 card.

|  |  |
| --- | --- |
| Command / Response | Description |
| Select | Selection of applications, or files |
| Read Binary | Read data from file |
| Update Binary | Update (erase and write) data to file |

Figure - Shows the basic commands needed

# Implementation

# Results

## 4.1 Measurements

The measurements done

## 4.2 Bugs

There are some bugs

## 4.3 Discussion

The assignment

# Conclusion

To conclude

# 6.0 References

1. [http://apps4android.org/nfc-specifications/NFCForum-TS-Type-4-Tag\_2.0.pdf](http://www.facebook.com/l.php?u=http%3A%2F%2Fapps4android.org%2Fnfc-specifications%2FNFCForum-TS-Type-4-Tag_2.0.pdf&h=RAQFjA1DV)  [↑](#footnote-ref-1)