

**MEMO:** TSR-02

**DATE:** October 20, 2017

**TO:** EFC LaBerge

**FROM:** Sabbir Ahmed, Jeffrey Osazuwa, Howard To, Brian Weber

**SUBJECT:** Team Status Report

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## 1 Introduction

The Galois Field Arithmetic Unit will accept inputs to determine  $n$ , and to establish the field generating polynomial. A GFAU would serve as a computation engine for a relatively low-powered microcontroller, and would enable complex code and encryption algorithms. Project will include implementation of a Reed Solomon encoder and decoder using the GFAU. The purpose of this report is to detail the progress of the GFAU in the period of October 7, 2017 through October 20, 2017. This is the second report for the GFAU project.

## 2 Completed Task

During this work period, the team has continued to make progress on the GFAU. Including the following achievements:

1. Discussed about the specification of the GFAU and a draft system requirement specification was submitted to Dr.LaBerge for review.
2. Discussed about the function within the GFAU and the functional flow diagram have been developed.
3. Discussed about the data input and output within the GFAU and the data flow diagram have been developed.
4. A Ganatt chart for the entire project highlighting the milestone and expected time of each task of the project.
5. Came up with rough design on polynomial generation.

## 3 Planned Task

The following task are planned for the next period:

1. Finish VHDL coding for both polynomial term generation and logarithm.
2. Simulation for the completed VHDL module.
3. Research on hardware components.

## **4 Current Issues**

The current issue we are having in this period is coming up with exact Hardware requirements such as, memory and speed required by the GFAU.