COE 485: Senior Design Project

Project Plan — Template

**Title**

3WSDS: 3-Way Secure Data Splitting

**Description**

A digital design is needed for a USB hub with 3 ports. When the hub is connected to a computer and the user wants to store a file, it should produce 3 distinct files and store each file in a different USB that is connected to it. When the user wants to read a stored file, it should get files from the connected USBs and then produce the originally saved File.

The design is based on secret sharing scheme (SSS). In M out of N SSS, K-bit integer can be split into N parts. Each part by itself will have no information about the original data. Even M — 1 parts should have no information about the original data. At least M parts are needed to recover the data. This project will implement the simplest version (2 out of 3) SSS.

**Supervisor**

Dr. Talal Alkharobi

**Team**

* Abdulmuhsin Al-Faraj(201081340)
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**Outcome**

A working prototype of the USB splitter device.

**Requirements**

* A design for the partitioning circuit.
* A design for the reconstruction circuit.
* A model for both in a hardware modeling tool.

**Timetable**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Task ID** | **Task Name** | **Week 3**  **9-13,Feb** | **Week 4-6**  **16 Feb-6 March** | **Week 7-9**  **9 March-3 April** | **Week 10-12** | **Week 13-15** |
| **1** | **literature survey** | **X** |  |  |  |  |
| **2** | **Designing the Share Builder +**  **Testing** |  | **X** |  |  |  |
| **3** | **Designing the Secret Constructor +**  **Testing** |  |  | **X** |  |  |
| **4** | **Working on the device interfaces.** |  |  |  | **X** |  |
| **5** | **Testing** |  |  |  |  | **X** |