ELEKTRONİK VE HABERLEŞME MÜHENDİSLİĞİ BÖLÜMÜ

BİTİRME TASARIM PROJESİ ARA RAPOR FORMU

Programı (ELE/TEL/EHB/EHBE) : ELE

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1) Bitirme Çalışmasının Başlığı:

Bluetooth Communication with Android and Microblaze

2) Özet:

This project aims to provide a simple and user friendly way to transfer data to various hardware modules on a FPGA. An android app is to be developed in order to provide user interface. This app communicates using the bluetooth modules found on smart phones. On the other side of communication channel a MicroBlaze based system receives the data from user. In order to establish Bluetooh connection an extarnal bluetooth module is used. Hardware and software design is going to be done in order to utilize the extarnal bluetooth module with Microblaze processor. As the end result processor is going to save the user data to a dual port Bram block so that other hardware modules on the same Fpga may have access to this data. An external LCD module is used to provide visual feedback to user so that user can check the data on the shared Bram block.

3) Çalışmanın amaç ve önemi:

Manipulating data on FPGAs is often not easy and straitforward. This project enables user to change data during runtime and this opens up new possibilities for future embedded development projects.

4) Bitirme Çalışması Gelişim Planı:

Up until now an andorid app is developed and tested for the application. Microblaze is designed and necessary software is developed in order to utilize LCD, Bluetooth, Bram and UART modules. Rest of the work needed to be done described below.

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|  | **Haftalar** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** |
| User experience enhancements  With Android app | | x | x | x | x |  |  |  |  |  |  |  |  |  |  |
| Improvments on interrupt  service routines | |  |  |  |  | x | x |  |  |  |  |  |  |  |  |
| System tests | |  |  |  |  |  | x | x |  |  |  |  |  |  |  |
| Writing thesis | |  |  |  |  |  |  |  | x | x | x | x | x | x | x |

5) Kaynak Listesi:

Microblaze softcore processor : <http://www.xilinx.com/products/design-tools/microblaze.html>

Bluetooth module : <https://www.olimex.com/Products/Components/RF/BLUETOOTH-SERIAL-HC-06/resources/hc06.pdf>

LCD module : <https://reference.digilentinc.com/pmod/pmod/cls/ref_manual>

Development environment : <https://www.xilinx.com/products/design-tools/platform.html>

Öğrenci Adı ve İmzası Danışman Adı ve İmzası