Digital Input Output Driver Design Document

1. Description:  
   This is a software driver for Digital Input Output Driver Peripheral of Atmega 32 Microcontroller, this driver was developed by Anas Ebrahim at 25/3/2016 under the supervision of Eng.Mohammad Hassan and Eng.Walid in the Software Engineering Course.  
   The driver provides the general APIs and Macros needed to use the Input output Pins of the Microcontroller
2. Driver Architecture:  
   The driver lies on the MCAL Layer and contains 3 header files  
   1-DIO\_Interface.h which contains the Functions/APIs Prototypes and variable like macros the user can use   
   2-DIO\_Config.h which contains the configuration the user can choose to be the initial directions and values of the input output pins.  
   3-DIO\_private.h which contains macros that is used only inside the driver.  
   And one source file   
   DIO\_Prog.c which contains the Implementation of the driver APIs.
3. Configurations:  
   The user is required to configure the Initial Direction and Values for each Pin.  
   - The options of the direction should be either (DIO\_u8OUTPUT) or (DIO\_u8INPUT)   
   - The options of the Value should be either (DIO\_u8HIGH) or (DIO\_u8LOW)

APIs (Public and Private)

Shared Variables

Integration constrains

Hardware constrains