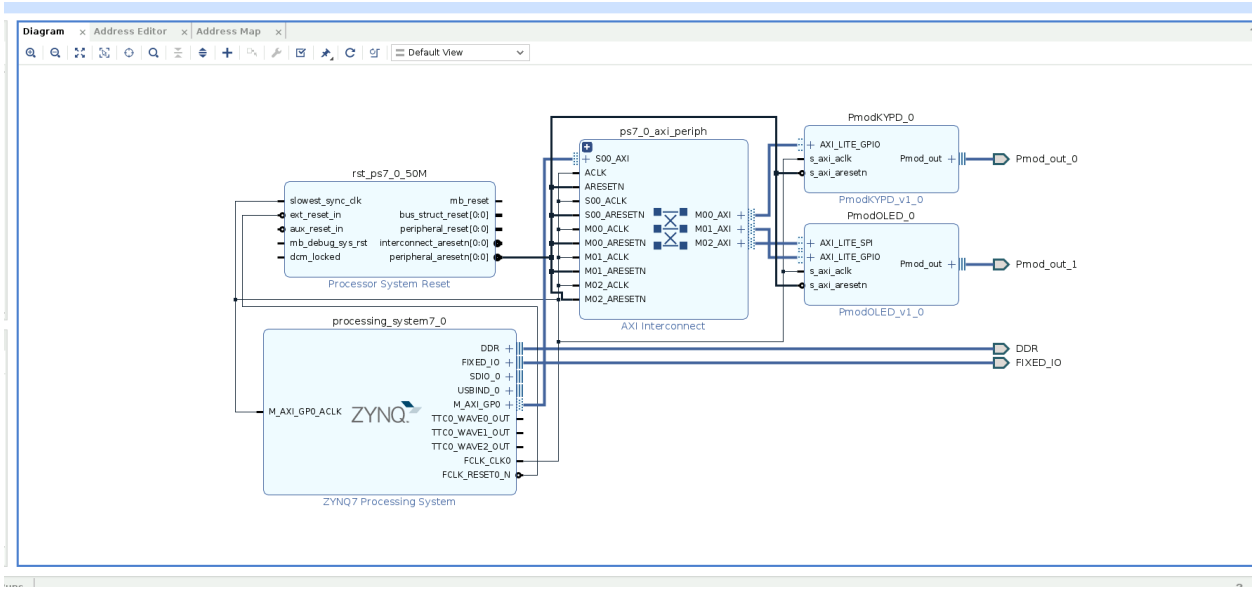
- General Description – liar's dice
- System Requirements
    - Non-functional - constraints on design metrics
        - Design metrics
            - Performance – Game State updated within 1 second of input
            - Size – Small handheld
            - Weight – Less than 1 lb
            - Power – 5V / 500 mA – Battery or USB powered
    - Functional - describes system's behavior
        - Initial draft - English description of the behavior
            - System would play a simple dice game. Both players would roll a set number of dice which are concealed to other players. The players would take one of the following actions:
                - Bid: Guess the number of a specific dice face is currently showing on the table (e.g 3 ones). Other than the first bid, all bids must be either higher in quantity (e.g 3 ones to 4 ones), higher in dice face (e.g 3 ones to 2 twos), or both.
                - Call bluff: All dice would be revealed and tallied to see if the bid from the other player was true. If the bid was right the player that called the bluff would discard a dice. If the bid was wrong the player that called the bid would discard a dice.
                - Spot on: All dice would be revealed and tallied to see if the bid from the other player is right. If the bid was right the player that called the bid would discard a dice, and if the bid was wrong then the player that called the spot on would discard a dice.
                - After a tally, all the players would re-roll their dice and continue with the next round.
                - Win/Lose - The only player to have dice left is declared the winner
            - System would use a display,keypad, and interact with the minicom terminal for this .
                - The display would show the number of dice

        - The keypad would the input device for both players for their actions
        - The minicom would update with the game state.
            - Show each player what their dice roll was
- Performance Expectation
    - Constrained metric – Update rate is acceptable and appealing to the customer
- PMODs -
    - Oled: oled Display (to display the number of dice each player would have)
    - KYPD: 16-button Keypad (to input player actions)
- Block Diagram



- Weekly Schedule
    - Week 1: Get keypad PMOD integrated, test inputs and outputs of system
        - Ensure that system can handle key presses in minicom
    - Week 2: Get oled PMOD integrated, perform initial testing and integration of new IP
        - Try to output the keys pressed and make sure that both minicom and the oled can update together in a reasonable time
    - Week 3: Develop software baseline with core functionality
        - Develop Game logic in C and make sure that it can output to a terminal on a computer
    - Week 4: Start integration of fundamental components

        - Integrating Game logic with the board making sure that both minicom and the keypad works with the system
    - Week 5: Complete integration of fundamental components
        - Implement the oled display to show the current game state
    - Week 6: Finalize last features and prepare demo
        - Last minute bug fixes or developement
    - Week 7: Present final project demonstration in Lab