Software Development for INL and DNL test for DAC and ADC

Flow:

Architecture: Producer/Consumer

- The Icons get loaded and the user selects the page as per their requirement.
- The **Home page** gives an overview of the INL and DNL calculation test.
- The **Mode page** allows the user to select ADC and DAC Mode.
- The **Configuration page** has the details of the instrument and contains the options for INL calculation i.e) Best fit or End point
- The Best fit contains the details about the offset and gain error whereas end point does not have.
- For End Point INL calculation remove the slope and intercept value (mx+c) from the actual value which results to the INL value
- The Configuration page directs to the **Input page** in which the user specifies the voltage range and number of bits from which the ideal LSB voltage and waveform can be simulated.
- For Simulation, a signal is generated for the specified input value and stored in an array.
- For Calculation, the indexed value from array is V_D and the operations are performed as per the formula attached in the design.
- The **Status and Graph page** displays the result when user clicks start.
- All these cases that displays the page contents get updated based on user interaction in the front panel by the event handling loop

Milestones:

Release 1: UI, Functional Home, Mode Selection, Configuration Screen

Release 2: Simulation of signals from user specified input and DNL Calculation

Release 3: Functional Software for INL and DNL Calculation