MKEL 1123: BLINKY APP

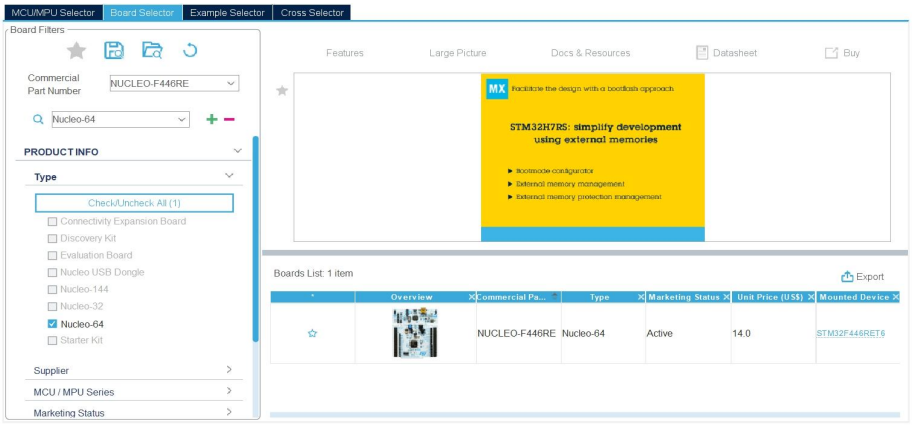
Prepared by: Group 2

Hu Yanbing

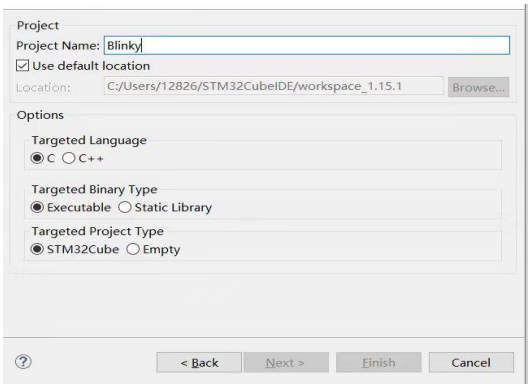
Peng Yilin

Zhang Yanpeng

1. The code is based on the STM32 microcontroller series and the HAL library, and it configures system clocks, initializes GPIO and UART interfaces, and controls a GPIO pin to flash an LED in the main loop.
2. Use STM32CubeIDE studio and create a new project. Choose the board 'NUCLEO-F446RE'.



3. Name the project: 'Blinky'.



4. Generate setup code for the selected board.
5. The code mainly includes the following parts.
   a. Including Header Files and Defining Global Variables.

b. Function Declarations.

c. Main Function.

d. System Clock Configuration (SystemClock_Config).

e. GPIO Initialization (MX_GPIO_Init).

f. USART2 UART Initialization (MX_USART2_UART_Init).

g. Error Handling (Error_Handler).

6. For LED blinking, using a while loop and set the LED to turn on for 600 milliseconds and off for 1000 milliseconds.

```
  /* USER CODE END 2 */

  /* Infinite loop */
  /* USER CODE BEGIN WHILE */
  while (1)
  {

      HAL_GPIO_WritePin(GPIOA, GPIO_PIN_5, 1);
          HAL_Delay (600);
          HAL_GPIO_WritePin(GPIOA, GPIO_PIN_5, 0);
            HAL_Delay (1200);
    /* USER CODE END WHILE */

    /* USER CODE BEGIN 3 */
  }
  /* USER CODE END 3 */
}

/**
```

7. DEMO video link on YouTube: https://youtu.be/FlFFnVAFnRU?si=BJgSToomIFqOPglz.