Iteration #02
NAMES: Amin Charepoo, Dani Robinson, Manu Geronimo
DATE: 2/21/26
DUE: 2/24/26

Define Objectives:

- Each student should define and contribute their individual objectives for the project, along with proposing overall objectives for the team.
- Collaborate as a team to refine and finalize a cohesive set of objectives that align with the project's overarching goals.

Overall Project Goals:

- Our team will design and implement a real-time task scheduler on a Raspberry Pico that has different sensors and outputs. This scheduler will be able to handle multiple tasks simultaneously, deal with priority queueing, and manage interruptions. It will be used in system time tracking and deadlines to know when tasks should be done and how often. Finally, we want the scheduler to be able to track if any tasks are not being completed on time or at all and report to the user the details.

Individual Objectives:

Scheduler Algorithm: Manu Geronimo

- Creating a program that queues tasks
- Has a priority queue that accepts interrupts
- Tracks deadlines of each task

Hardware: Dani Robinson

- Checking out the Raspberry Pi Pico
- Building the circuit that includes buttons and an LCD screen
- Working with code and hardware so they work harmoniously

Interrupts/Timing: Amin Charepoo

- Develop an interrupt service
    - Ex: A button press instantly causes an action to happen like a led to blink
- Make sure that tasks are paused so they can resume after being interrupted.
- Configure hardware timers to make sure that tasks are checked and executed on time.
- Make sure that tasks run on schedule
    - Check if deadlines are missed.

Select Technologies and Tools:

- Discuss and agree on the programming languages, tools, and frameworks that will be used for the project.
- Languages:
  - C++
- Tools
  - Raspberry Pi Pico
  - LCD Screen
  - Buttons
  - LEDs
  - Speakers
- Frameworks
  - Arduino IDE

Repository link

→ https://github.com/AminCharepoo/Real-Time_Task_Scheduler.git

Timeline			
Date	**Objective**	**Our Date Goals**	**Objective**
February 23	Start Coding	**March 31**	Finish coding
February 23	Building Circuit	**March 31**	Circuit built
March 9	Check-in	**March 31**	Keep checking in with the coding and circuit to make our deadlines
April 9	Make presentation	**April 12**	Finished presentation
April 15	Final Project DUE	**April 12**	Finish Project