# UNISHELL: YOUR PERSONAL ASSISTANT FOR A BALANCED WORK-LIFE

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# PROBLEM: DEFINITION AND EXPLANATION OF THE PROJECT IDEA

- Working on a computer for extended periods can lead to health and productivity issues

- Lack of movement, dehydration, and poor time management are common problems

- Need for reminders to take breaks, drink water, and manage time effectively

# SOLUTION: INTRODUCTION TO UNISHELL

- Developed Unishell – a personal productivity assistant in the shell

- Implemented in C, utilizing multithreading and signal handling

- Provides reminders for Pomodoro technique, hydration, and physical movement

# SOLUTION

## POMODORO TECHNIQUE

- Pomodoro Technique breaks work into intervals separated by short breaks

- Helps maintain focus and prevent burnout

- Unishell's Pomodoro Timer implements this technique

## HYDRATION REMINDER

- Dehydration can lead to decreased cognitive performance

- UniShell's Hydration Reminder encourages regular water intake

- Periodic notifications remind the user to stay hydrated

## MOVEMENT REMINDER

- Extended periods of sitting can lead to health issues

- UniShell's Movement Remider encourages regular physical activity

- Regular prompts to get up and move around

# DEMO

# LESSONS LEARNED
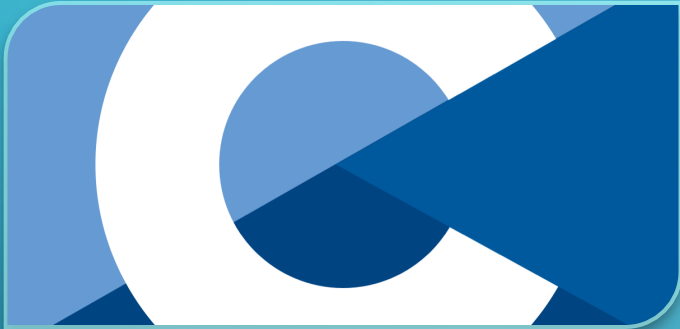


## C PROGRAMMING

Gained experience with C programming



```
if (pthread_create(&pomodoro_thread, NULL, pomodoro_thread_func, NULL) != 0)
{
    fprintf(stderr, "Error creating pomodoro thread\n");
}
```

## MULTITHREADING AND SIGNAL HANDLING

Learned about multithreading and signal handling



```
if (args[0] == NULL)
{
    printf("Please enter a command\n");
}
```

## ERROR CHECKING AND EXCEPTION HANDLING

Importance of error checking and exception handling in software development

# CONCLUSION

- UniShell is an effective tool for improving productivity and maintaining health

- Future improvements: customize reminder messages, add more productivity techniques

- Thank you! Questions?