ECOLE POLYTECHNIQUE DE BRUXELLES

ELEC-H410

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Pandemic Project

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1 Introduction

The goal of the pandemic game is to produce enough vaccines to eradicate the virus before the population collapses. We have at our disposal an interface (*pandemic.h*) to communicate with the game routine.

- Every 3 seconds a vaccine clue is dropped.
- Every 5 seconds the percentage of healthy people in the population is updated.
- On random occasions an individual gets contaminated and we need to quarantine the population in less than 10 milliseconds.

To manage these events and win the game we created one task for each with different priorities. We also have a task dedicated to printing the game state on a LCD screen.

2 Tasks and Synchronization

2.1 Quarantine

This task has the highest priority of all our tasks. All it does is wait for the *QuarantineStart* binary semaphore to be available. This is triggered by the contamination. When the semaphore is available the task starts the quarantine. This is done in time because of the priority of the task.

2.2 Vaccine

2.3 Medicine

2.4 LCD

3 Logic Analyzer Traces

4 Conclusion