MASTER THESIS: ASYNCHRONOUS COMMUNICATION TEST LIBRARY

Background

When a test relies on asynchronous communication, the test waits for a reply for too long or not long enough which lead to long test execution or failing tests, respectively.

A solution to such failures is to stop waiting once a satisfactory reply has been received which allows a long waiting time to be set. This reduces test execution times at the same time increases probability that the tests pass.

Description

As part of this thesis, a library shall be created which will help to write such tests.

The library will be based on the proposal P2300: std::execution (https://wg21.link/p2300 ), but modified to fit our codebase and restrictions that comes with writing software fit for ISO26262 "Road vehicles – Functional safety"

Your Task:

- Investigation of how proposal P2300: std::execution can be adopted to MICROSAR Adaptive
- Literature survey for other potential solutions to the problem
- Creation of a prototype of the test library
- Testing and evaluation of the prototype

Your Profile:

- Studies in computer science or a comparable field
- Good programming skills in C++
- Experience with working in Linux environment

Location:

Linköping

Are you interested?

Interviews will be held continuously. Therefore, we encourage you to apply as soon as possible via https://career.vectorsweden.com/jobs/2064166-thesis-asynchronous-communication-test-library/3f511cb7-6bf5-483b-b97b-4e99f3c229f3

We are looking forward to your application!