Verslag opdracht 2

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De aanpak

We zijn begonnen met het kijken welke actors we allemaal hadden. Uiteindelijk hebben we er 3 gevonden, deze zijn: end users, developers en een productowner. Deze actors zijn allemaal een aparte thread. Daarna zijn we de verschillende activiteiten gaan onderscheiden. Deze hebben we vertaalt in semaphores. Elke thread heeft in principe een oneindige levenscyclus aangezien ze allemaal een while(true) loop hebben.

# Communicatie

De threads communiceren met semaphores en twee counters. De twee counters zijn hoeveel ontwikkelaars er aan het wachten zijn en hoeveel eindgebruikers een probleem hebben. Het veranderen van deze counters zijn ook weer beschermd met semaphores, zodat niet twee threads tegelijk een counter kunnen aanpassen.

# Test

We hebben onze oplossing getest door elke keer als er een actie gebeurd (overleggen, werken, reizen) dit in de console uit te printen. Hieraan kan je zien dat elke actor(thread) elke keer wel weer aan de beurt komt. Zo kan je ook zien dat een thread niet ergens op vastloopt (een deadlock krijgt) aangezien hij dus elke keer terugkomt in de console.

In bijlage A kan je de output van ons programma vinden als het programma normaal functioneert. Oftewel als er een product owner is, er programmeurs zijn en er eindgebruikers zijn.

Een test zonder users resulteert in dat er alleen overleg tussen drie programmeurs en de product owner komt. Dit is te zien in de output van ons programma in bijlage B.

We hebben getest zonder een productowner dus er zijn alleen programmeurs aan het werk. Hierdoor komen er geen meetings en staan de users te wachten totdat iemand het probleem van de user aanspreekt. De output is te vinden in bijlage C.

We hebben ook getest dat we te weinig developers hebben voor een developer meeting, in bijlage D kan je de output vinden van deze test.

# Bijlage A

|  |  |
| --- | --- |
| programmer 1 working  programmer 2 working  programmer 4 working  programmer 3 working  productowner just living  programmer 0 working  programmer 1 done working  user 0 traveling  user 4 traveling  user 2 traveling  user 1 traveling  user 6 traveling  user 7 traveling  user 5 traveling  user 3 traveling  programmer 3 done working  programmer 3 working  user 6 done traveling  user 6 consulting  programmer 2 done working  programmer 2 working  user 2 done traveling  user 2 consulting  programmer 4 done working  programmer 4 working  programmer 3 done working  programmer 3 working  programmer 0 done working  programmer 0 working  user 5 done traveling  user 5 consulting  user 6 done consulting  user 7 done traveling  user 7 consulting  user 1 done traveling  user 1 consulting  user 2 done consulting  programmer 2 done working  programmer 2 working  user 5 done consulting  user 4 done traveling  user 4 consulting  user 7 done consulting  programmer 2 done working  programmer 2 working  user 0 done traveling  user 0 consulting  user 3 done traveling  user 3 consulting  programmer 1 consulting  productowner consulting  programmer 2 done working  programmer 2 working  programmer 4 done working  programmer 4 working  user 4 done consulting  programmer 4 done working  programmer 4 working  programmer 2 done working | programmer 2 working  programmer 3 done working  programmer 3 working  programmer 0 done working  programmer 0 working  productowner done consulting  productowner just living  user 1 done consulting  programmer 1 done consulting  programmer 1 working  programmer 4 done working  user 3 done consulting  programmer 1 done working  user 0 done consulting  programmer 3 done working  programmer 0 done working  user 6 traveling  user 4 traveling  user 3 traveling  user 0 traveling  user 7 traveling  user 5 traveling  user 2 traveling  user 1 traveling  programmer 2 done working  programmer 2 working  user 5 done traveling  user 5 consulting  user 2 done traveling  user 2 consulting  user 0 done traveling  user 0 consulting  user 7 done traveling  user 7 consulting  programmer 2 done working  programmer 2 working  user 5 done consulting  user 1 done traveling  user 1 consulting  user 3 done traveling  user 3 consulting  user 4 done traveling  user 4 consulting  user 2 done consulting  programmer 2 done working  programmer 2 working  user 7 done consulting  user 6 done traveling  user 6 consulting  programmer 0 working  productowner consulting  programmer 3 working  programmer 1 working  programmer 4 consulting  programmer 1 done working  programmer 1 working  user 1 done consulting  user 0 done consulting  programmer 0 done working |

# Bijlage B

|  |  |
| --- | --- |
| productowner just living  programmer 0 working  programmer 2 working  programmer 3 working  programmer 1 working  programmer 4 working  programmer 1 done working  productowner just living  productowner just living  productowner just living  programmer 3 done working  programmer 4 done working  productowner just living  programmer 0 done working  programmer 2 done working  programmer 1 consulting  productowner consulting  programmer 4 consulting  programmer 3 consulting  programmer 2 working  programmer 0 working  programmer 1 done consulting  programmer 2 done working  programmer 2 working  programmer 0 done working  programmer 0 working  programmer 3 done consulting  programmer 4 done consulting  programmer 0 done working  programmer 0 working  productowner done consulting  programmer 1 working  programmer 3 working  programmer 4 working  productowner just living  productowner just living  programmer 1 done working  programmer 3 done working  programmer 2 done working  programmer 0 done working  programmer 4 done working  programmer 1 consulting  programmer 3 consulting  programmer 2 consulting  programmer 0 working  productowner consulting  programmer 4 working  programmer 1 done consulting  programmer 4 done working  programmer 4 working  programmer 0 done working  programmer 0 working  programmer 2 done consulting  productowner done consulting  productowner just living  programmer 1 working  programmer 2 working  programmer 1 done working  programmer 4 done working | programmer 3 done consulting  programmer 3 working  productowner just living  productowner just living  programmer 0 done working  programmer 2 done working  programmer 3 done working  programmer 1 consulting  programmer 0 consulting  programmer 3 working  programmer 2 working  productowner consulting  programmer 4 consulting  programmer 4 done consulting  productowner done consulting  productowner just living  programmer 4 working  programmer 1 done consulting  programmer 1 working  productowner just living  programmer 1 done working  programmer 0 done consulting  programmer 0 working  programmer 0 done working  programmer 2 done working  programmer 3 done working  programmer 1 consulting  programmer 0 consulting  productowner consulting  programmer 3 working  programmer 2 consulting  programmer 4 done working  programmer 4 working  programmer 0 done consulting  programmer 3 done working  programmer 3 working  programmer 3 done working  programmer 3 working  programmer 1 done consulting  programmer 2 done consulting  productowner done consulting  productowner just living  programmer 0 working  programmer 2 working  programmer 1 working  programmer 4 done working  programmer 3 done working  programmer 2 done working  programmer 0 done working  programmer 1 done working  programmer 4 consulting  programmer 1 working  programmer 0 working  productowner consulting  programmer 2 consulting  programmer 3 consulting  programmer 2 done consulting  programmer 0 done working  programmer 0 working |

# Bijlage C

|  |  |
| --- | --- |
| programmer 1 working  programmer 0 working  programmer 2 working  programmer 3 working  programmer 4 working  programmer 1 done working  programmer 1 working  programmer 4 done working  programmer 4 working  programmer 3 done working  programmer 3 working  programmer 3 done working  programmer 3 working  programmer 1 done working  programmer 1 working  programmer 0 done working  programmer 0 working  programmer 3 done working  programmer 3 working  programmer 2 done working  programmer 2 working  programmer 1 done working  programmer 1 working  programmer 4 done working  programmer 4 working  programmer 4 done working  programmer 4 working  programmer 0 done working  programmer 0 working  programmer 1 done working  programmer 1 working  programmer 3 done working  programmer 3 working  programmer 2 done working  programmer 2 working  programmer 0 done working  programmer 0 working  programmer 4 done working  programmer 4 working  programmer 2 done working  programmer 2 working  programmer 3 done working  programmer 3 working  programmer 2 done working  programmer 2 working | programmer 1 done working  programmer 1 working  programmer 0 done working  programmer 0 working  programmer 1 done working  programmer 1 working  programmer 4 done working  programmer 4 working  programmer 2 done working  programmer 2 working  programmer 3 done working  programmer 3 working  programmer 3 done working  programmer 3 working  programmer 1 done working  programmer 1 working  programmer 0 done working  programmer 0 working  programmer 1 done working  programmer 1 working  programmer 4 done working  programmer 4 working  programmer 3 done working  programmer 3 working  programmer 0 done working  programmer 0 working  programmer 2 done working  programmer 2 working  programmer 4 done working  programmer 4 working  programmer 3 done working  programmer 3 working  programmer 3 done working  programmer 3 working  programmer 2 done working  programmer 2 working  programmer 0 done working  programmer 0 working  programmer 1 done working  programmer 1 working  programmer 3 done working  programmer 3 working  programmer 4 done working  programmer 4 working |

# Bijlage D

|  |  |
| --- | --- |
| productowner just living  programmer 1 working  programmer 2 working  programmer 3 working  programmer 4 working  programmer 0 working  programmer 4 done working  programmer 1 done working  programmer 2 done working  user 1 traveling  user 0 traveling  programmer 3 done working  programmer 3 working  programmer 0 done working  programmer 0 working  programmer 0 done working  programmer 0 working  user 1 done traveling  user 1 consulting  user 0 done traveling  programmer 4 consulting  programmer 1 working  programmer 2 working  productowner consulting  user 0 consulting  user 1 done consulting  programmer 3 done working  programmer 3 working  user 0 done consulting  programmer 0 done working  programmer 0 working  programmer 3 done working  programmer 3 working  programmer 0 done working  programmer 0 working  programmer 2 done working  programmer 2 working  productowner done consulting  productowner just living  productowner just living  programmer 4 done consulting  programmer 4 working  programmer 1 done working  programmer 3 done working  user 1 traveling  user 0 traveling  user 0 done traveling  user 0 consulting  programmer 2 done working  programmer 2 working  programmer 0 done working  programmer 0 working  programmer 0 done working  programmer 0 working  programmer 4 done working  programmer 4 working  programmer 4 done working  programmer 4 working  programmer 0 done working  programmer 0 working  programmer 2 done working  programmer 2 working  programmer 0 done working  programmer 0 working  user 0 done consulting  user 1 done traveling  user 1 consulting  programmer 1 consulting  programmer 3 working  productowner consulting  programmer 4 done working  programmer 4 working | productowner done consulting  productowner just living  programmer 4 done working  programmer 0 done working  user 0 traveling  user 0 done traveling  user 0 consulting  programmer 4 consulting  productowner consulting  programmer 0 working  programmer 3 done working  programmer 3 working  programmer 2 done working  programmer 2 working  user 1 done consulting  programmer 4 done consulting  programmer 4 working  user 0 done consulting  programmer 1 done consulting  programmer 2 done working  programmer 2 working  programmer 0 done working  programmer 0 working  programmer 4 done working  programmer 4 working  programmer 4 done working  programmer 4 working  programmer 2 done working  programmer 2 working  productowner done consulting  productowner just living  programmer 1 working  programmer 3 done working  programmer 4 done working  programmer 1 done working  programmer 0 done working  user 1 traveling  user 0 traveling  programmer 2 done working  programmer 2 working  user 1 done traveling  user 1 consulting  user 1 done consulting  user 0 done traveling  user 0 consulting  programmer 3 consulting  programmer 4 working  programmer 0 working  programmer 1 working  productowner consulting  programmer 2 done working  programmer 2 working  programmer 3 done consulting  programmer 4 done working  programmer 4 working  programmer 2 done working  programmer 2 working  programmer 0 done working  programmer 0 working  programmer 4 done working  programmer 4 working  programmer 2 done working  programmer 2 working  productowner done consulting  productowner just living  programmer 3 working  programmer 3 done working  user 0 done consulting  programmer 4 done working  programmer 1 done working  programmer 2 done working  programmer 0 done working  user 1 traveling  user 0 traveling  user 1 done traveling  user 1 consulting |