

Cognitive task analysis and adaptive interfaces in process control

Usability Engineering Course
IN 4083

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TUD: 10.100



Introduction

- Measuring CTL (cognitive task load)
- Manipulating CTL – Design process
- Manipulating CTL – Real time
- Summary

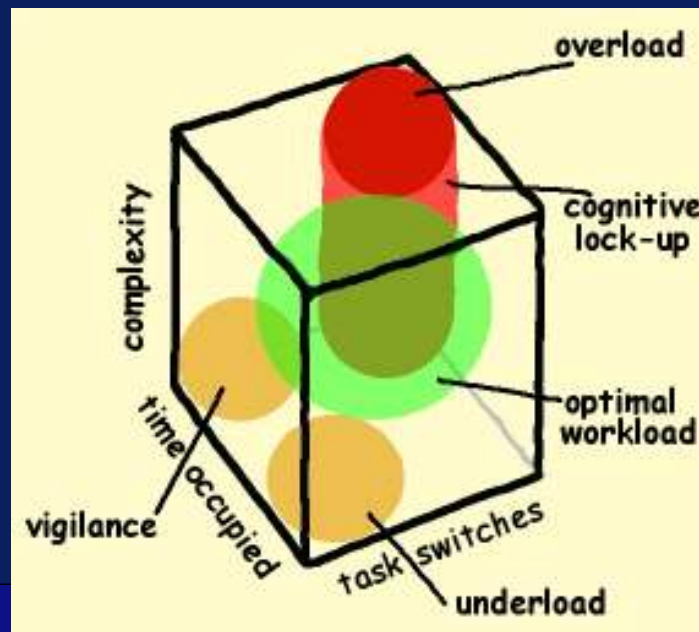


Measuring CTL – The model

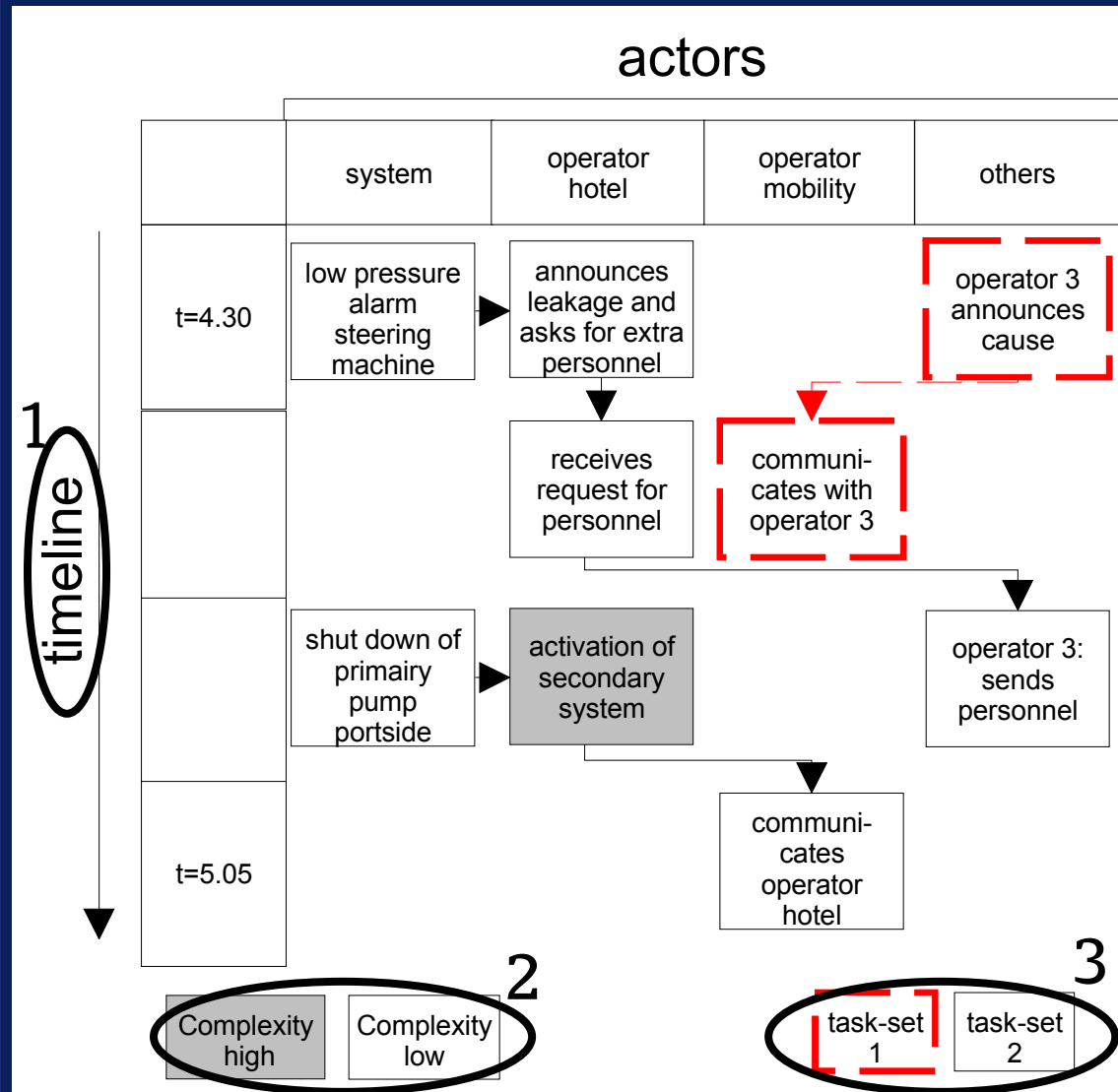
Old situation – Time occupied



Current situation



Manipulating CTL – Design process



CTL factors

1. Time occupied
2. Complexity
3. Task switches

Tools to manipulate

CTL:

- Task allocation
- Interface support

Atene

Vaart 16.5 kt
Koers 317 -

Wind 20 kt
Richting 30

Asomw L 108 /min
Asomw R 103 /min

Scheduler

Tijd 15:05:32
Datum 12-07-01

Brand 4
Brand Compartiment 4-65 15:01:14 4

Vorstuwing 0

Overig 0

Actie lijst | Info Invoer

- Crashstop ventilatie
- Omroepen brandmelding
- Starten brandbluspomp
- Omroepen brand
- Bepalen aanvalsroute
- Bepalen rookgrenzen
- Neerzetten omgevingskoeling
- Spanningsvrij maken
- Weghalen gevaarlijke stoffen

Diagnosis Guide

Information Handler

Rule Provider

Schip

Brandblus systemen

CO2 systeem

Aanvalsroute:
Dek 4 - Comp 65 - 1 2 3 4

Toepassen Cancel

Communicatie

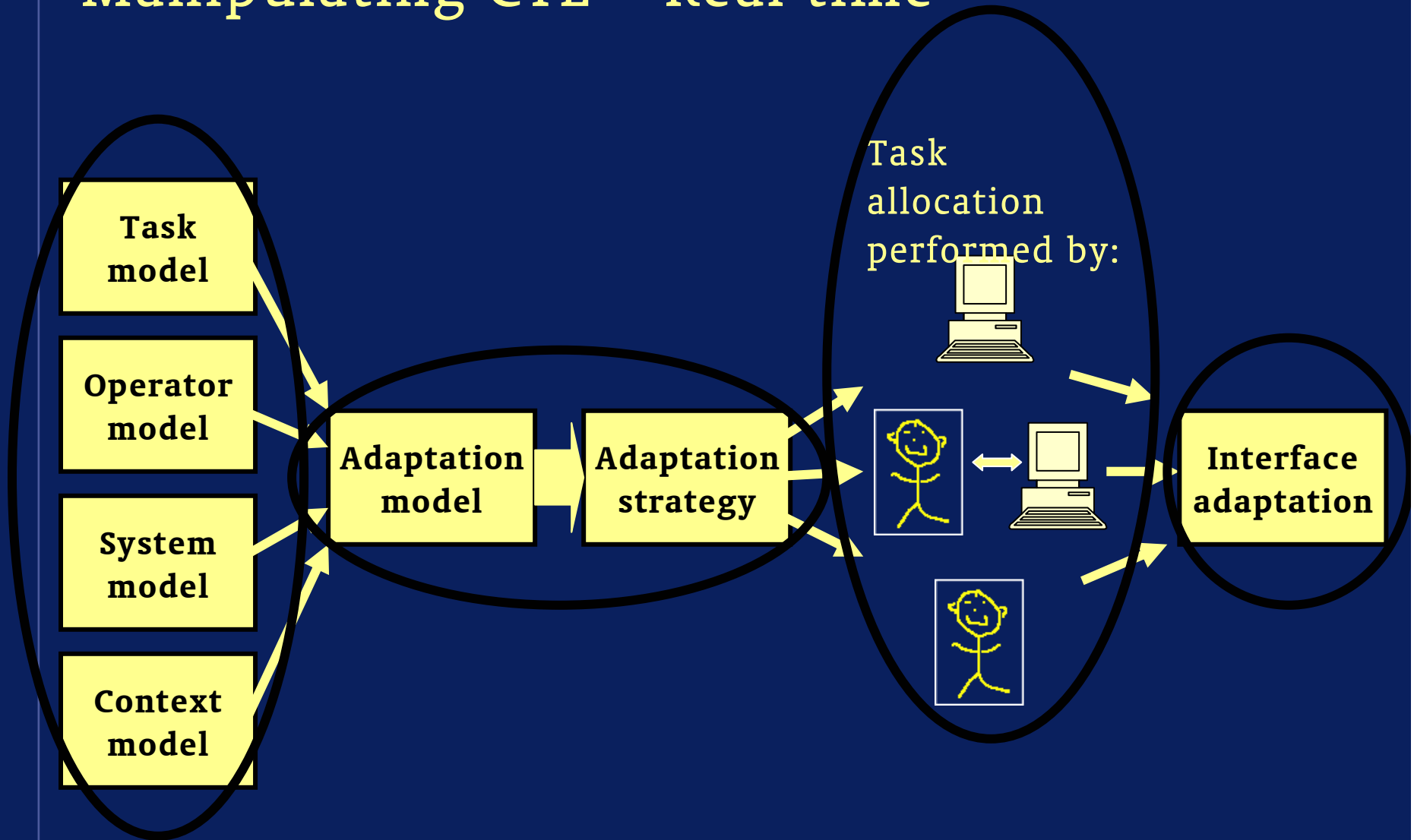
Brandbestrijding

Vorstuwing

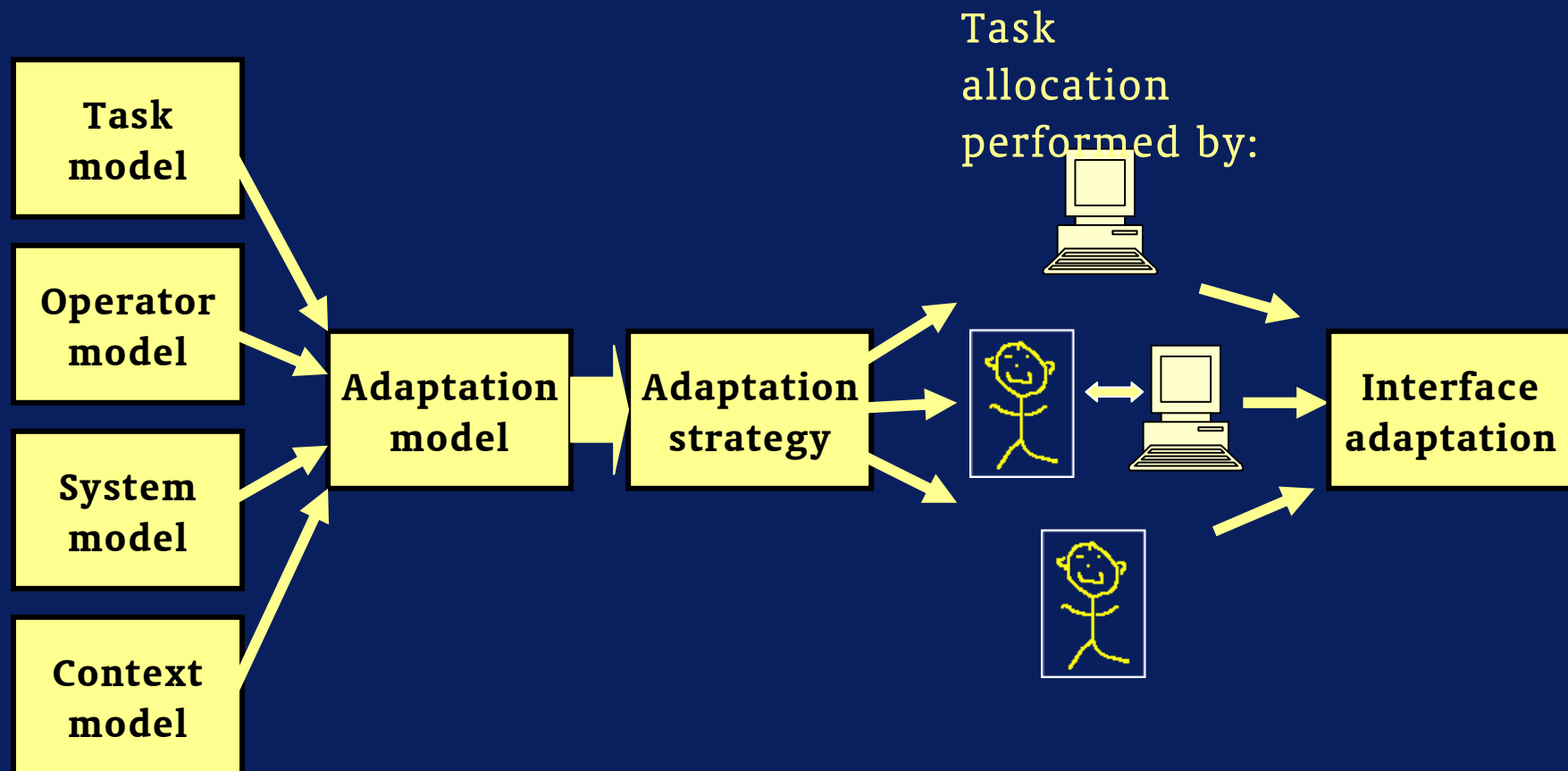
Energie

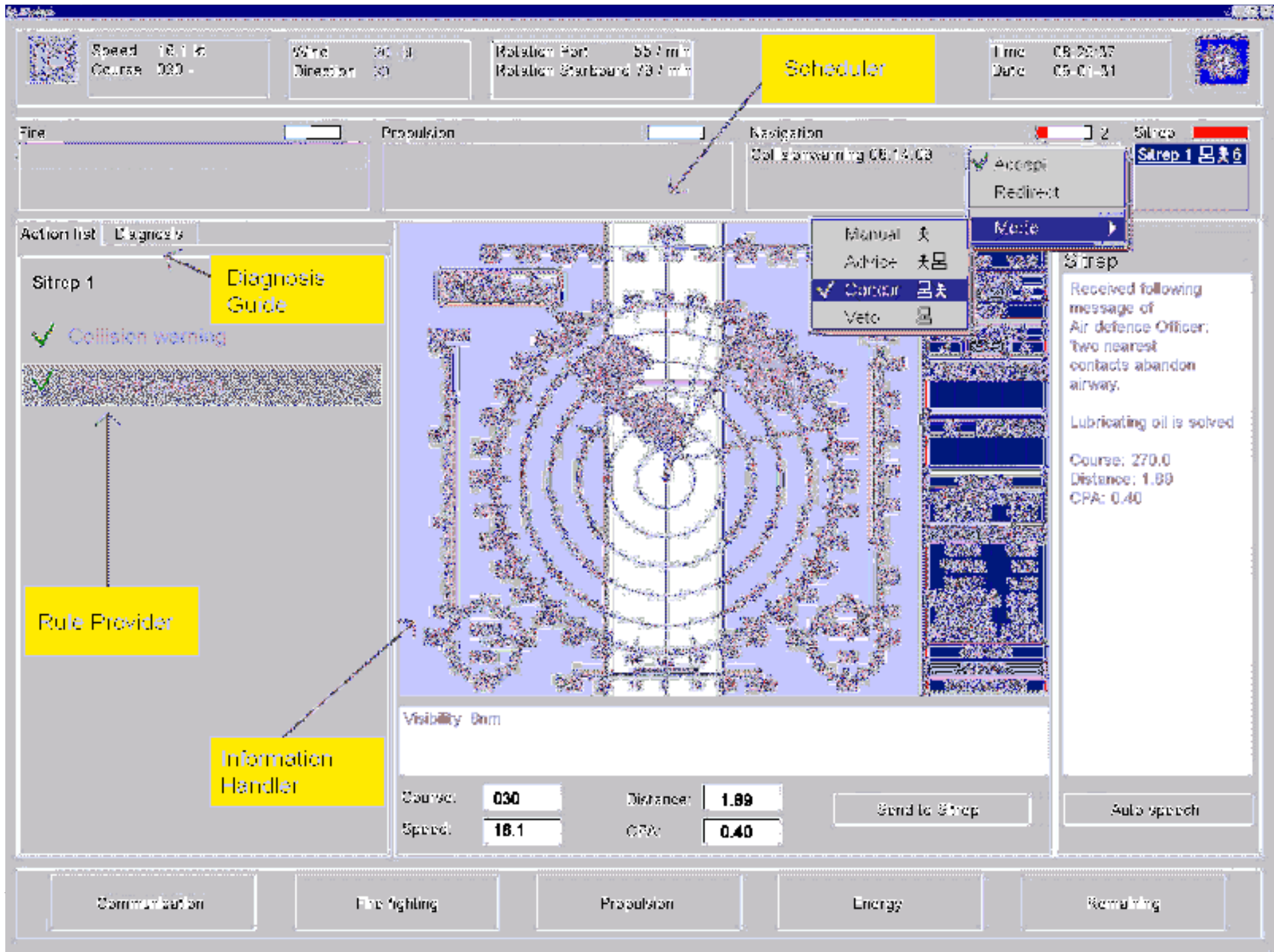
Overig

Manipulating CTL – Real time



Manipulating CTL – Real time





Summary

- CTL model
- CTL method
- Manipulation in design process and real time
- Adaptive interface