

Mandatory Assignment 1

Group 1
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September 22, 2012

This assignment is a part of the Advance Mobile and Distributed Systems Seminar.

1 Exercise 1, p. 12

$$\begin{aligned} SYSTEM_1 &\stackrel{\text{def}}{=} (v \text{ talk}_i, \text{switch}_i, \text{give}_i, \text{alert}_i : i = 1, 2) \\ &(\text{CAR}(\text{talk}_1, \text{switch}_1) | \text{Base}_1 | \text{IDLEBASE}_2 | \text{CENTRE}_1) \end{aligned} \quad (1)$$

$$\text{IDLEBASE}(t, s, g, a) \stackrel{\text{def}}{=} a. \text{BASE}(t, s, g, a) \quad (2)$$

$$\text{BASE}_i \stackrel{\text{def}}{=} \text{BASE}(\text{talk}_i, \text{switch}_i, \text{give}_i, \text{alert}_i) \quad (i = 1, 2) \quad (3)$$

$$\begin{aligned} \text{CENTRE}_i &\stackrel{\text{def}}{=} \overline{\text{give}_1 \text{talk}_2 \text{switch}_2. \text{alert}_2. \text{CENTRE}_2} \\ &\quad \overline{\text{give}_2 \text{talk}_1 \text{switch}_1. \text{alert}_1. \text{CENTRE}_1} \end{aligned} \quad (4)$$

2 Exercise 2, p. 13

SYSTEM₁ =