Heisprosjekt

Presentasjon av dokumentasjon

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Use case

- Pre-condition
- Sucsess-scenario
- Expansions
- Success guaranty
- Minimal guaranty

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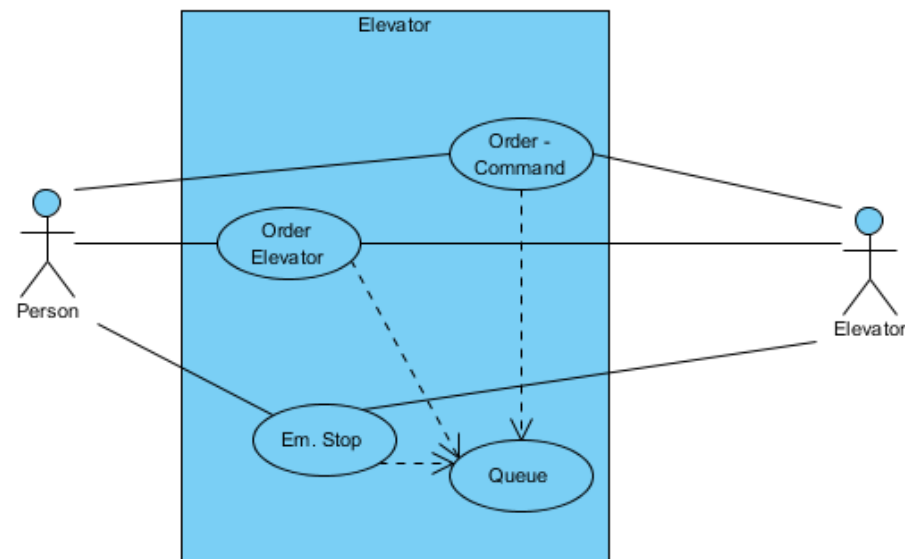
Use case

- **Pre-condition**
  - Power on
  - At a floor
- **Trigger:**
  - User order a floors from outside panel
- **Success-scenario**
  - 1. Move elevator
  - 2. Stop elevator at ordered floors
  - 3. User order wanted floor from inside panel
  - 4. Move elevator
  - 5. Stop elevator at ordered floor

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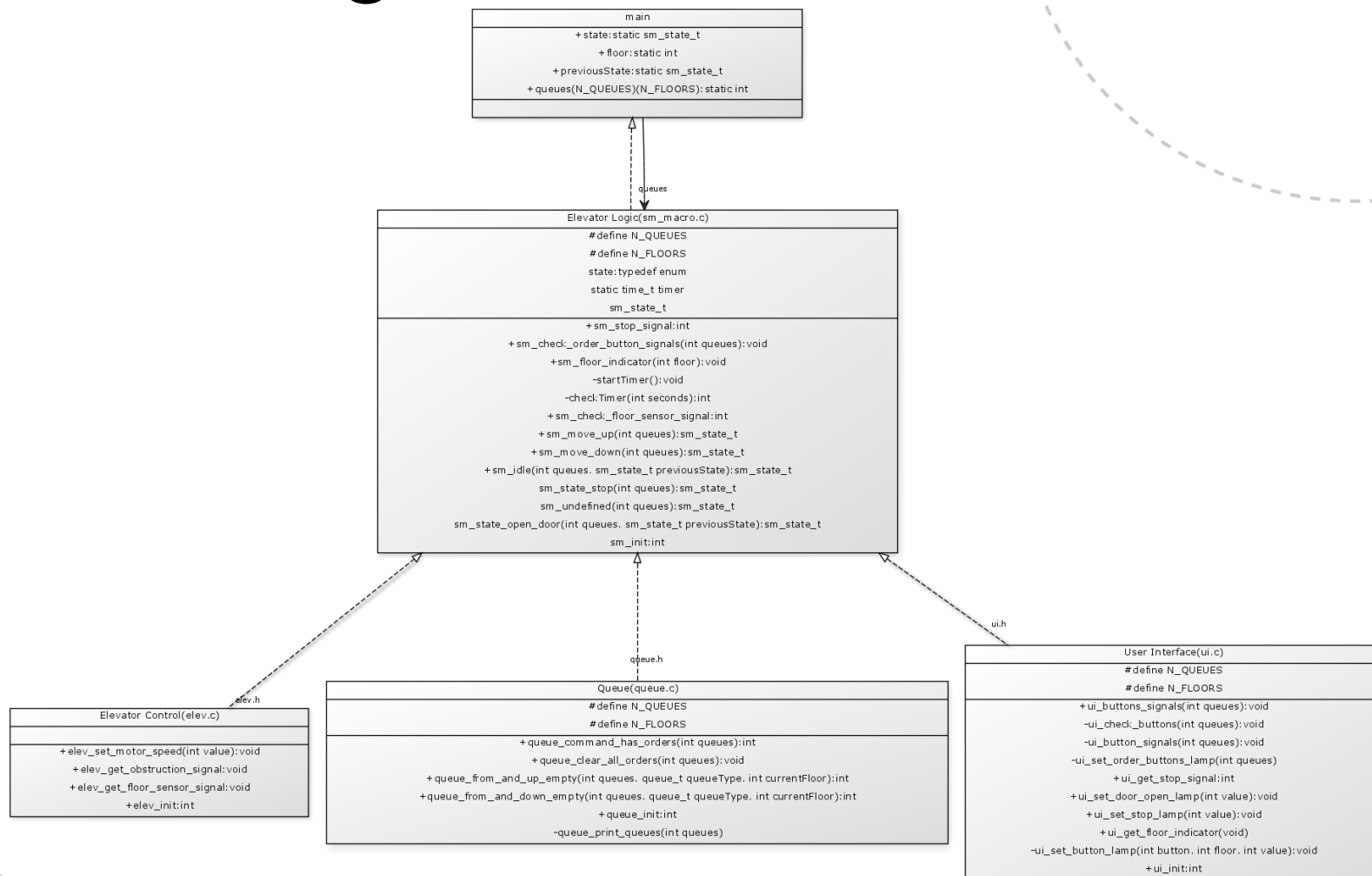# Use Case 2

- Expansions
  - 2
    - 2.a Stop button pressed
    - 2.b Jump to 5
  - 4
    - 4.a Stop button pressed
    - 4.b Stop elevator
    - 4.c Wait for order from innside panel
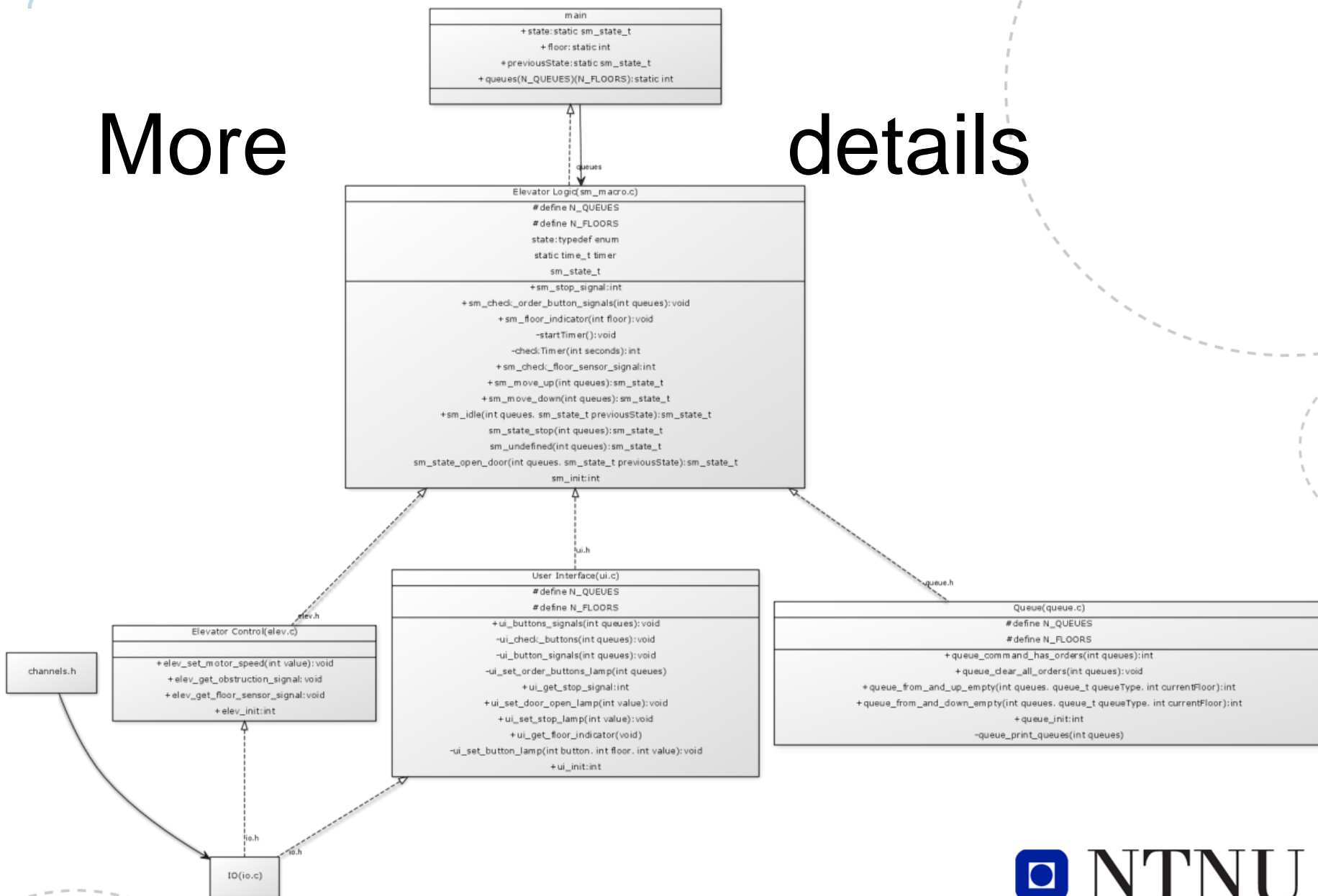   - 4.d Jump to 4

Use case 3

- Sucess guaranty:
  - Power on and program running

- Minimal guarany:
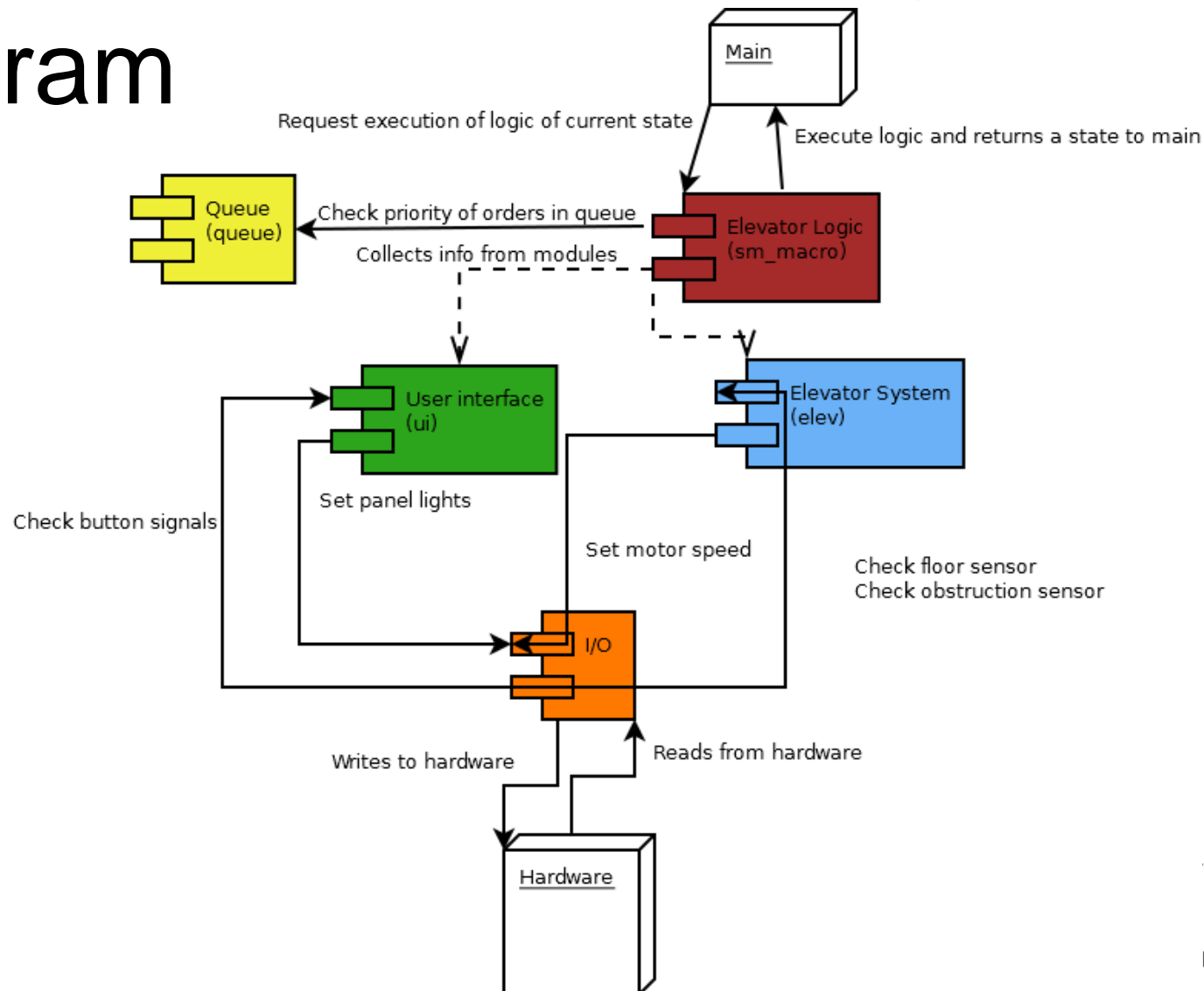 - Elevator stops on a floor

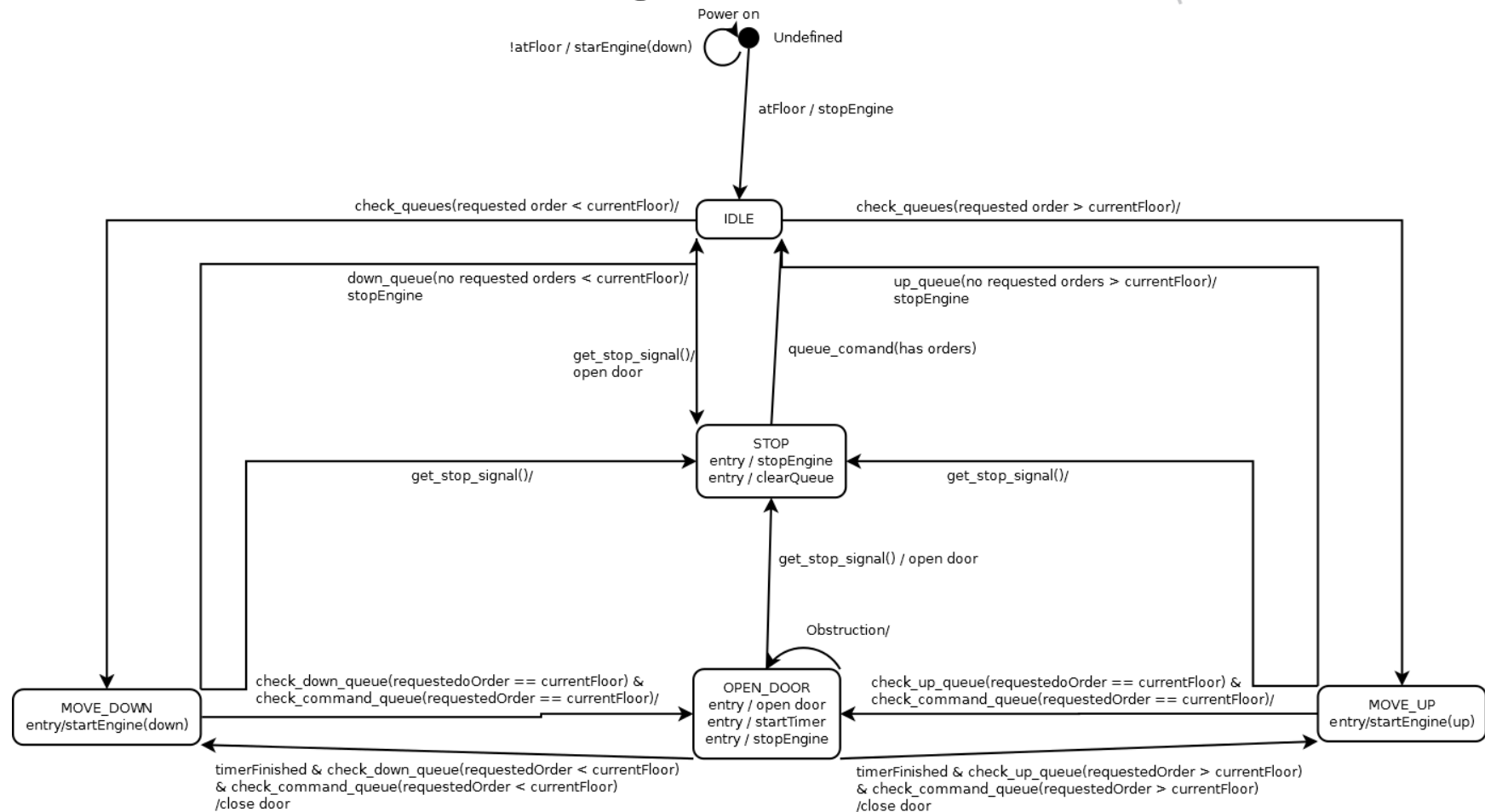# Class diagram

More details

main
- +state: static sm_state_t
- + floor: static int
- +previousState: static sm_state_t
- + queues(N_QUEUES)(N_FLOORS): static int

queues

Elevator Logic(sm_macro.c)
- #define N_QUEUES
- #define N_FLOORS
- state: typedef enum
- static time_t timer
- sm_state_t

- +sm_stop_signal: int
- +sm_check_order_button_signals(int queues): void
- +sm_floor_indicator(int floor): void
- -startTimer(): void
- -checkTimer(int seconds): int
- +sm_check_floor_sensor_signal: int
- +sm_move_up(int queues): sm_state_t
- +sm_move_down(int queues): sm_state_t
- +sm_idle(int queues, sm_state_t previousState): sm_state_t
- sm_state_stop(int queues): sm_state_t
- sm_undefined(int queues): sm_state_t
- sm_state_open_door(int queues, sm_state_t previousState): sm_state_t
- sm_init: int

ui.h

User Interface(ui.c)
- #define N_QUEUES
- #define N_FLOORS
- +ui_buttons_signals(int queues): void
- -ui_check_buttons(int queues): void
- -ui_button_signals(int queues): void
- -ui_set_order_buttons_lamp(int queues)
- +ui_get_stop_signal: int
- +ui_set_door_open_lamp(int value): void
- +ui_set_stop_lamp(int value): void
- +ui_get_floor_indicator(void)
- -ui_set_button_lamp(int button, int floor, int value): void
- +ui_init: int

elev.h

Elevator Control(elev.c)
- +elev_set_motor_speed(int value): void
- +elev_get_obstruction_signal: void
- +elev_get_floor_sensor_signal: void
- +elev_init: int

channels.h

queue.h

Queue(queue.c)
- #define N_QUEUES
- #define N_FLOORS
- +queue_command_has_orders(int queues): int
- +queue_clear_all_orders(int queues): void
- +queue_from_and_up_empty(int queues, queue_t queueType, int currentFloor): int
- +queue_from_and_down_empty(int queues, queue_t queueType, int currentFloor): int
- +queue_init: int
- -queue_print_queues(int queues)

io.h

IO(io.c)

Overview communication diagram

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Tilstandsdiagram

Tilstandsdigram 2