
TurnOn Use Case

Actors Operator

Preconditions ChronoTimer is off

Normal Course 1. Operator issues command to turn on.
a. ChronoTimer sets current time to internal clock.

Alternate Courses Operator may also turn ChronoTimer printer on at this stage.

Exception Courses If the ChronoTimer is unable to power on, operator should check power connection.

Post-conditions ChronoTimer is on with the current time set.

Frequency of Use High

Assumptions -

TurnOff Use Case

Actors Operator

Preconditions ChronoTimer is on

Normal Course 1. Operator issues command to turn off.
a. ChronoTimer confirms the command, and powers off.

Alternate Courses Operator may cancel turning ChronoTimer off.

Exception Courses

Post-conditions ChronoTimer is off.

Frequency of Use High

Assumptions -

Reset Use Case

Actors	Operator
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Preconditions	ChronoTimer is on
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Normal Course	1. Operator issues command to reset. a. ChronoTimer confirms the command, and resets state.
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Alternate Courses	Operator may cancel reset.
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Exception Courses	
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Post-conditions	ChronoTimer is on with state reset.
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Frequency of Use	Medium
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Assumptions	-
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NewRace Use Case

Actors Operator

Preconditions Machine is on and current time is set.
Sensors are placed at their destinations and operator has ordered list of racers.

Normal Course 1. Operator issues command to set the event type.
2. Operator issues command to create a new run.
 a. ChronoTimer increments the run number.
3. Operator enters the ordered racer list into the system one by one.
4. Operator connects the sensors to appropriate channels.
5. Operator issues command to toggle appropriate channels for Race type to ON.
 a. ChronoTimer prints channel numbers and their new state to acknowledge the toggle.

Alternate Courses • If the operator changes the event type after beginning, the operator must redo all subsequent steps.
• If the operator creates a new run without specifying an event type, the event type will default to IND.
• At any time the operator may remove a specified racer from the run by invoking the CANCEL use case.

Exception Courses • If the operator fails to create a new run before entering racers, an error will be printed and the racer will not be added.
• If the operator toggles a channel to which there is no sensor connected, an error will be printed and the channel will not be toggled.

Post-conditions ChronoTimer is ready to accept events from sensors and apply them to the state of its current run.

Frequency of Use Very often.

Assumptions -

Clear Use Case

Actors Operator

Preconditions ChronoTimer is on and has a current run.
The racer to clear from the run exists.

Normal Course 1. Operator issues command to clear a racer from the run.
a. ChronoTimer removes the racer from the run.

Alternate Courses

Exception Courses If any preconditions aren't met, an error is printed and racer is not cleared.

Post-conditions The racer is removed from the run.

Frequency of Use Medium

Assumptions -

DNF Use Case

Actors Operator

Preconditions ChronoTimer is on and has a current run.
The racer to mark DNF exists, has started, and has not finished.

Normal Course 1. Operator issues command to mark a racer DNF.

Alternate Courses

Exception Courses If any preconditions aren't met, an error is printed and racer is not marked DNF.

Post-conditions The racer is marked DNF and removed from consideration in future events.

Frequency of Use Low

Assumptions -

Cancel Use Case

Actors Operator

Preconditions ChronoTimer is on and has a current run.
The racer to cancel the start of exists, has started, and has not finished.

Normal Course 1. Operator issues command to cancel a racer's start.
a. ChronoTimer clears racer's time, and returns the racer to the start queue.

Alternate Courses

Exception Courses If any preconditions aren't met, an error is printed and racer is not cancelled.

Post-conditions The racer's start time has cancelled and is returned to the start queue.

Frequency of Use Low

Assumptions -

PrintRace Use Case

Actors Operator

Preconditions ChronoTimer is on and has a current run.
Printer is on.

Normal Course 1. Operator issues command to print entire race.
a. ChronoTimer prints the log of entire current race to printer.

Alternate Courses

Exception Courses If preconditions aren't met, an error is printed.

Post-conditions Physical printer log shows entire race.

Frequency of Use Medium

Assumptions

EndRace Use Case

Actors Operator

Preconditions ChronoTimer is on and has a current run.

Normal Course 1. Operator issues command to end the current race.
 a. ChronoTimer prompts to confirm command.
 b. ChronoTimer invokes PrintRace use case.
 c. ChronoTimer ends the current race.
 d. ChronoTimer toggles all channels to off.

Alternate Courses The operator may cancel when prompted to confirm command.

Exception Courses -

Post-conditions ChronoTimer has no current race.

Frequency of Use Medium

Assumptions -

Start Use Case

Actors	Racer
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Preconditions	ChronoTimer is on and has a current run. There are racers left to start.
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Normal Course	1. The racer triggers the sensor as they start the race. a. ChronoTimer receives signal, logs the start time as bound to the next racer marked to start, and prints to log and printer.
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Alternate Courses	-
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Exception Courses	If there is no current run or there are no racers left to start, nothing is done.
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Post-conditions	ChronoTimer has log corresponding the racer who started with their start time.
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Frequency of Use	Very High
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Assumptions	-
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Finish Use Case

Actors	Racer
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Preconditions	ChronoTimer is on and has a current run. There are racers who have started but not finished.
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Normal Course	1. The racer triggers the sensor as they finish the race. a. ChronoTimer receives the signal, logs the finish time as bound to the next racer marked to finish, and prints to log and printer.
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Alternate Courses	-
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Exception Courses	If there is no current run or there are no racers who have started, nothing is done.
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Post-conditions	ChronoTimer has log corresponding the racer who finished with their finish time.
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Frequency of Use	Very High
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Assumptions	-
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Use Case Diagram

