# Mircowave Oven : 2nd Hand-in

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## Jenkins

http://ci3.ase.au.dk:8080/user/swt42/my-views/view/SWT42/job/SWT42\_MicroWaveOven/

## Github Repository

https://github.com/Krabsenm/SWT42\_MicroWaveOven.git

## Dependency tree

The dependencies in the software for the Microwave oven.

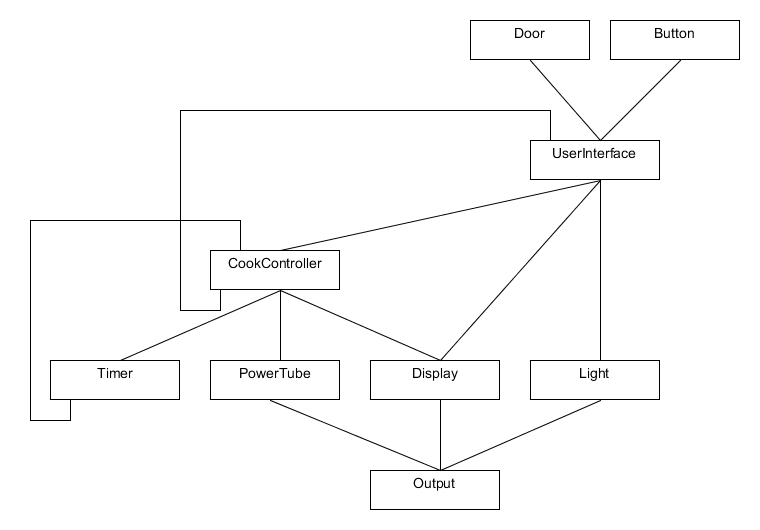


Figure 1 dependency tree

## Integration test strategy

To test the software we have considered the following patterns:

* Big Bang integration Pattern
  + The Big Bang Pattern is not used because it has a very low probability of detecting the errors in the code, and even harder to pin point where in the software the error originated.
* Collaboration Integration Pattern
  + The Collaboration Pattern is not used because the software given is described in one use case and this practically makes the pattern equivalent to the Big Bang Pattern.

The Top-down Integration Pattern is chosen as the integration strategy because it gives early feedback on how the system reacts to being driven by the door and button.

Another advantage is that using top-down postpones the use of the timer class to the end of the integration tests. This is an advantage, because it takes a lot of time to test the timer class.

The output class is tested using a bottom-up approach, because it would need needlessly long test, in order to verify, that the “WriteLine” function functions properly.

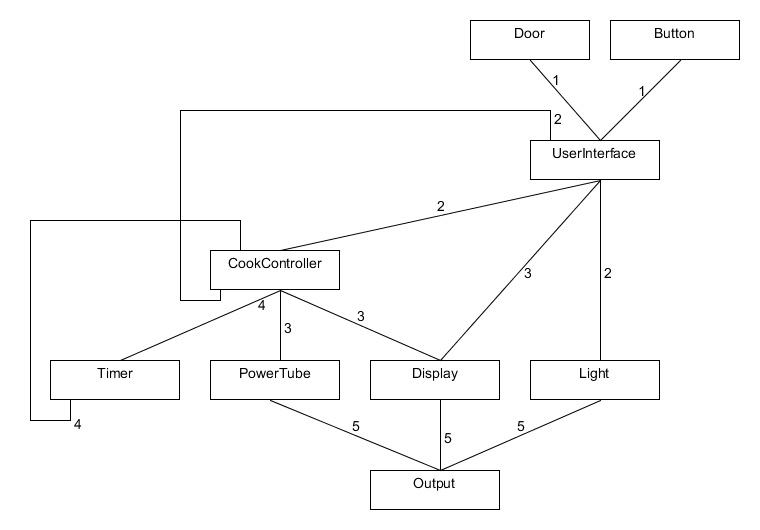


Figure 2 visualization of integration plan

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Steps | Button | Door | UserInterface | CookController | Timer | PowerTube | Display | Light | Output |
| 1 | D | D | X | S |  |  | S | S |  |
| 2 | D | D | X | X | S | S | S | X | S |
| 3 | D | D | X | X | S | X | X | X | S |
| 4 | D | D | X | X | X | X | X | X | S |
| 5 | D | D | X | X | X | X | X | X | X |

D: This module is included, and the one driven

X: This module is included

S: This modules is stubbed or mocked

## Errors detected doing integration testing

1. There was an inconsistency in the use of milliseconds and seconds in UserInterface, Timer and CookingControl. In order to fix this, we made the timer count in seconds – as specified in the use case -, which made the entire application count in seconds.
2. In the function OnStartCalcelPressed under the state SETTIME, the display was cleared, which was not in line with the sequence diagram. This lead to an error in the test case *Cooking\_CookingIsDone\_ClearDisplay*, because the test received a clear before *CookingIsDone* is called. This was how the error was discovered.