Ideal Project Structure:

⇒ Source control & proficiency.

⇒ GIT.

⇒ Build systems ⇒ GNUMAKE / CMAKE.

⇒ Compile using multiple compilers with maximum warning levels (GNU / Clang LLVM)

⇒ Use multiple linters.

⇒ Use multiple code-formatters (clang-tidy)

⇒ Use multiple static analyzers (clang) (cppcheck)

⇒ Use documentation generator

⇒ Using / Integrating continuous integration.

⇒ Compile for host - ~~target~~ (Unit tests)
and target (final binary)

⇒ Compile RTOS for host? (useful for integration tests?)

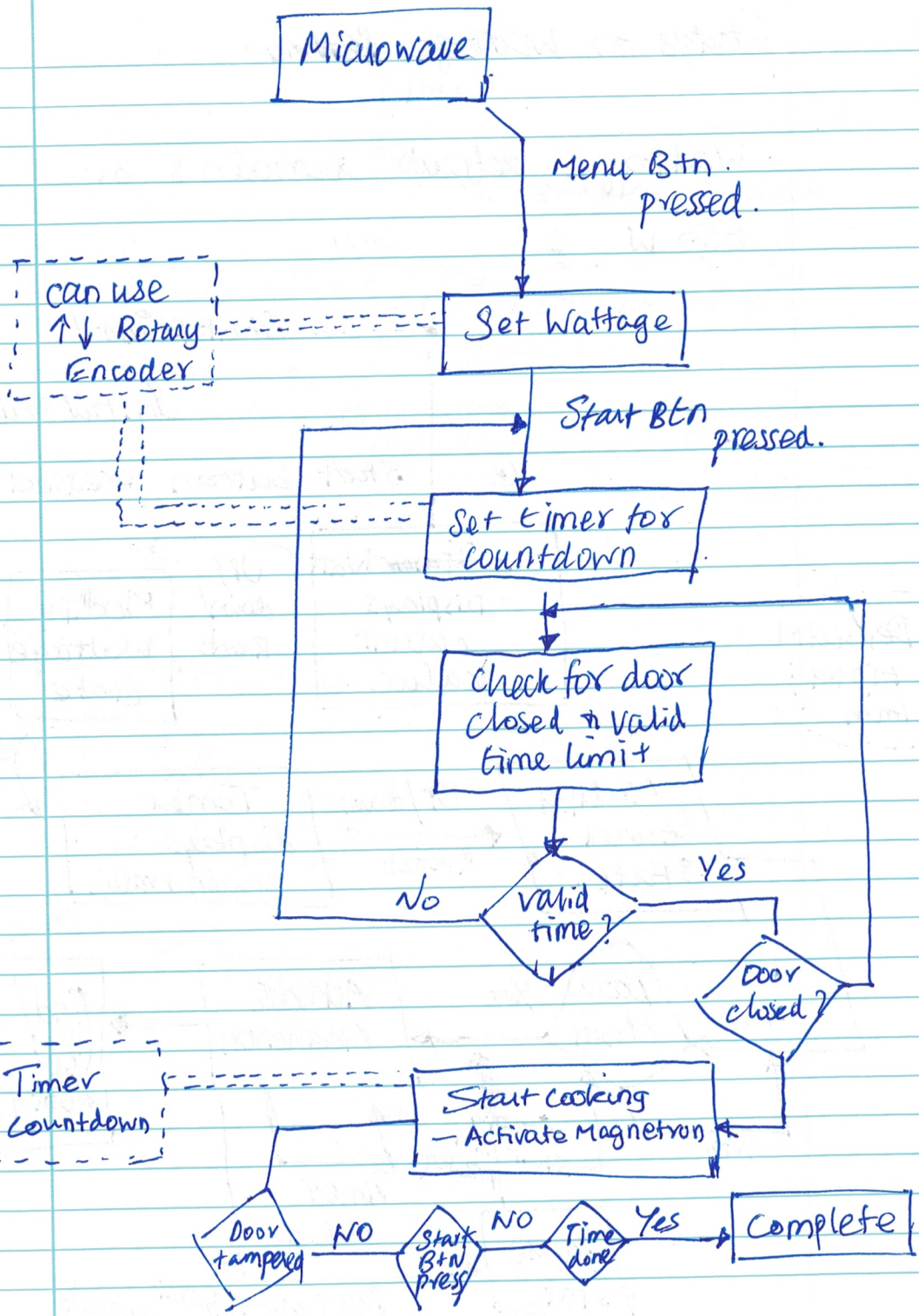
⇒ Modelling embedded software architecture using ~~SysML~~ UML & state machines / sourcetrail

⇒ Simulate state machines.

Continued =>

=> Modelling / simulating business logic.
Using python / similiar proto langs.

=> Dynamic analysis using tools like
System view / Percepio


Micuowave
Menu Btn pressed.
can use ↑↓ Rotary Encoder
Set Wattage
Start Btn pressed.
Set timer for countdown
Check for door closed & valid time limit
No
valid time?
Yes
Door closed?
Timer Countdown
Start cooking
- Activate Magnetron
Door tampered
NO
Start Btn press
NO
Time done
Yes
Complete