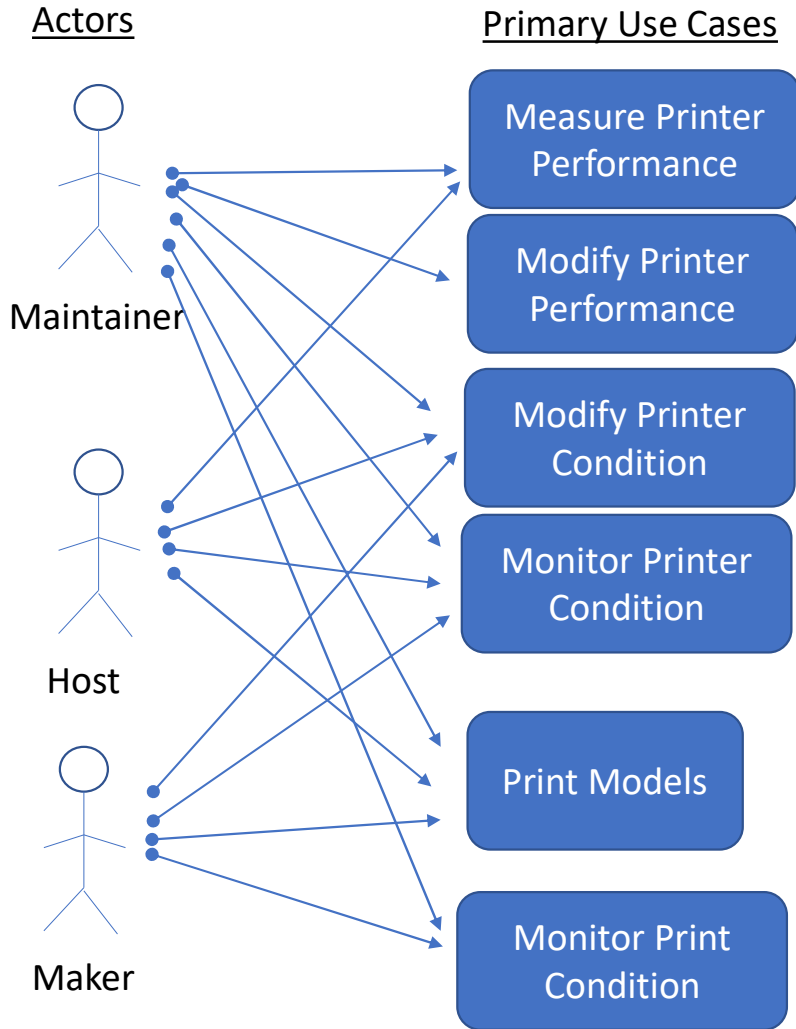
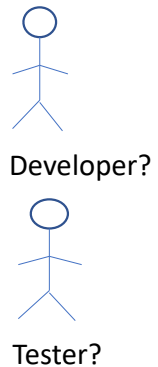


Primary Use Case Analysis Example:

Compare this diagram to the current UI menu structure. Correct this picture until it looks complete. Identify any menu or firmware design changes inspired in the course of the exercise.



Specific Design Cases to Consider

“Measures of Printer Performance”:

- Probe Repeatability (M48)
- Mesh Validity (G26)
- Temperature vs Target Value (Bed, Nozzle, Enclosure)

“Printer Conditions”

- Temperature (Bed, Nozzle, Enclosure)
- Extruder Position (X, Y, Z, E)
- Stepper Motor/Driver States (Active, Locked, Disabled)
- Key Parameter Values (Bed Mesh values; Offset values (X, Y, Z); Pre-Heat Temperature values (Bed, Nozzle); eSteps (X, Y, Z, E); PID Values etc... (M503, M502, M500)
- Filament present/not-present
- Fan speed (Extruder, Part Fan, PSU Fan, Controller Fan)
- Firmware version installed (Motherboard; Display)
- Display brightness; Sound ON/OFF; ...?
- LED ON/OFF

“Models”

- Calibration test models (Temp Towers; Flow Tests; eStep Cubes; etc.)
- Spiral-Mode/Vase models
- Print-in-Place models
- ...

“Print Conditions”:

- | | | |
|------------------|-----------|-------------------|
| • Uploading file | • Stopped | • % Completed |
| • Heating | • Aborted | • Print Completed |
| • Printing | • Resumed | • Print Failed |
| • Paused | | |

Current* UI: (*v5 Beta, 30 Dec 2020 version)

•Control

- Temperature
 - Nozzle temp
 - Bed temp
 - Fan
 - PID tuning (conceptually for [#60](#))
 - Preheat PLA & PETG settings (huh!)
- LED
- Screen stand-by
- Screen stand-by brightness
- Sound
- E-steps (conceptually for [#57](#))
- Restore factory settings
- Info / about

• Print

- Print confirmation
- Print progress
- Print finished

•Leveling

- Set Z-offset
- Auto bed leveling

•Prepare

- Move
- Filament extrude
- Disable steppers
- Preheat PLA
- Preheat PETG
- Cooldown

I think a new menu structure would be leaning on four pillars:

- Print preparation
- Printing**
- Settings
- Calibration

The menu structure would be something like this for:

Modify Printer Condition

Settings

- Temperature
 - Preheat PLA/PETG/ABS settings
- Screen settings
 - Standby / brightness / standby time / sound
- Probing
 - Perhaps future settings for [#116](#) and [#106](#)
- LED
- Reset to factory settings (this is duplicate with calibration but I don't think that is an issue)
- Info / about

Menu organization philosophy =?

- Group by what is controlled?
 - Group by workflow requirements?
- What about MONITORING requirements?

Modify Printer Performance

Calibration

- PID
- E-steps
- Leveling
- (perhaps advanced steps/mm settings in the future)
- Reset to factory settings

Print Models

Print preparation

- Move
- Temperature
 - Preheat PLA/PETG/ABS
 - Hot-end / bed temps
 - Fan (is this actually necessary?)
- Load / unload filament
- Disable steppers
- Cooldown