

Heated Bed

Feature Name: Heated Bed

Feature Name in Annotation: Bed_Heated

Source of Information

Domain knowledge, Code comment, Source Code, ifdefs

Strategy Used:

Through 3D printer construction, we learned that the Cartesian printer has a heated bed that raises stickiness of the newly printed material. Then we started from the largest and most central logic file MarlinMain.cpp, and browsing through the code comment and source code for whether the comments, variables, method, ifdef macros names contain keywords such as “bed”. The functionalities that controls the heating the stabilizing of the temperature of the heated bed are also counted as part of the feature. Lastly, the other source code files are also browsed to retrieve other related part of the feature.

Feature Description: This feature is optional for Marlin, there are printers that have the option of installing a heated bed instead of a metal or glass bed. This is a quite useful feature since the stickiness of the material largely depends on the quality of the bed. With a heated bed, it allows the printed materials to have better stickiness to the bed.

Time spent: This feature is one of 18 features that were located by manually going through all code files of Marlin using our source code method. It took one person 25 hours to identify all 18 features.

Feature Characteristics:

Feature Name	LoFC	SD	TD	Completely Wrapped by ifdef
Heated Bed	211	4	5	No

Ratios of sources (%)

RL	PR	CM	Ifdef	DK	CC	SC	GD
0	0	0	10	50	20	20	0

RL: Release Log; **PR:** Pull Request; **CM:** Commit, **Ifdef:** Ifdef Expression; **DK:** Domain Knowledge; **CC:** Code Comment; **SC:** Source Code; **GD:** G-Code Documentation.