Servo Motor

Feature Name: Servo Motor

Feature Name in Annotation: Moter_Type_Servo

Source of Information
Domain knowledge, Code comment, Source Code, G-code Documentation, ifdefs

Strategy Used:
Through 3D printer construction, we learned that there are two types of drivers that drive the motors. One is stepper, and the other one is servo. This hardware component was also drawn on our first version of the feature model. Then we started from the largest and most central logic file MarlinMain.cpp to check whether the comments, variables and method names contain keywords such as “servo”. The source code are also checked to see whether they are actually related to the functionalities of stepper. Other source code files are also browsed for whether the same keyword can be found. According to G-code documentation, there are certain G-codes i.e. M280, M340 that are directly related to settings for the endstops

Feature Description: This feature is mandatory for Marlin. Servo is an alternative motion driver to stepper. And they act as power source to the motors that set motion to all axes.

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
Moter_Type_Servo	64	3	0	No

Ratios of sources (%)

RL	PR	CM	Ifdef	DK	CC	SC	GD
0	0	0	5	35	5	45	10

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