Filament Scale

# Introduction

This system is designed to give a continuous display of how much filament is left on the spool. It does this by knowing the weight of the empty spool and subtracting this from the total weight that is measured. The empty spool weight can be determined by using any of the following methods:

1. Weighing on a scale and entering the value manually.
2. Weighing an empty spool on this system and entering the value manually.
3. Weighing a full spool on a scale and subtracting the filament weight to give the spool weight which is then entered manually.
4. Weighing a full spool on this system with a known amount of filament, typically 1kg. Subtracting the filament weight from the total weight gives the spool weight which is then entered manually.

The system maintains a list of 100 spool settings that are easily selected.

# Hardware

## Parts Needed

# Software

## Development Environment

## Libraries

# The Main Screen

# Menus

## Main Menu

### Main Screen

### Spool Settings

#### Previous Menu

#### Active Spool

#### Spool Wt From Full

#### Weigh Empty Spool

#### Empty Spool Wt

#### Full Spool Weight

#### Save Settings

### Scale Settings

### Reboot System

MenuItem SpoolMenu[] = {

{eExit,false,"Previous Menu"},

{eTextInt,false,"Active Spool: %2d",GetIntegerValue,&nActiveSpool,1,MAX\_SPOOL\_WEIGHTS},

{eText,false,"Spool Wt from Full",CalculateSpoolWeight},

{eTextInt,false,"Weigh Empty Spool",WeighEmptySpool},

{eTextInt,false,"Empty Spool Wt: %d g",ChangeSpoolWeight,NULL,1,2000,0,NULL,NULL,SetMenuDisplayWeight},

{eText,false,"Save Settings",SaveSpoolSettings},

//{eText,false,"Load Spool Settings",LoadSpoolSettings},

{eTextInt,false,"Full Spool Wt: %d g",GetIntegerValue,&fullSpoolFilament,100,2000},

{eExit,false,"Previous Menu"},

// make sure this one is last

{eTerminate}

};

MenuItem ScaleMenu[] = {

{eExit,false,"Previous Menu"},

{eText,false,"Tare (reset zero)",SetTare},

{eText,false,"Calibrate Weight",Calibrate},

{eTextInt,false,"Wt to Length: %d.%d",GetIntegerValue,&nLengthConversion,30000,40000,2},

{eText,false,"Save Settings",SaveSpoolSettings},

{eExit,false,"Previous Menu"},

// make sure this one is last

{eTerminate}

};

MenuItem MainMenu[] = {

{eExit,false,"Main Screen"},

{eMenu,false,"Spool Settings",{.menu = SpoolMenu}},

{eMenu,false,"Scale Settings",{.menu = ScaleMenu}},

{eReboot,false,"Reboot System"},

{eExit,false,"Main Screen"},

// make sure this one is last

{eTerminate}

};