

Place 'n Paste (Team #xy)
Benchside Meeting
26th September 2018

Problem Statement: Students with severe disabilities face many challenges with tasks that we perform every day with little thought. For one student in the “Life Skills” program in West Springfield schools, his limited fine motor skills make it impossible for him to squeeze toothpaste onto his toothbrush. Our “Place and Paste” system will offer him independence by allowing him to brush his teeth without assistance. An easy-loading system will secure the toothbrush, move it under the toothpaste, squeeze the toothpaste, and present the toothbrush for use.

System Specifications:

1. Dispense pea-sized toothpaste onto brush
2. Will hold toothbrush such that the machine and toothbrush will stay sanitary
3. Toothbrush will be placed in a way such that users lacking fine motor skills can insert toothbrush
4. Product will take no longer than 20 seconds from when toothbrush is correctly inserted to return loaded toothbrush
5. Product size will not obstruct normal use of school’s single occupancy bathroom
6. Product will be designed such that it will guide toothbrush motion once it is placed into holder

Block Diagram:

