

Magnetic Tool Holder

DESIGN RATIONALE

Introduction

This Magnetic Tool Holder is designed to allow someone to place a mouthstick (or another tool) on the holder and then retrieve it whenever they need it again.

The holder is designed such that most smartphone mounts can be used to mount it.

Magnets are inserted inside the holder, and then a couple small magnetic objects (bobby pins, paper clips, etc.) are attached to the mouthstick so it is attracted to the magnets.

Since the magnets are in a line and the holder is curved, the mouthstick snaps into place when it is placed close to the holder. This leaves it within easy reach to be retrieved for use.

Requirements

Goals

G01	Magnetically hold tools in a convenient location
-----	--

Functional Requirements

F01	Hold magnetic tools in place on the mounting surface
F02	Have a low enough force that the tools can be removed with the user's mouth
F03	Be attached to a commercial phone mount

Constraints

C01	Using just 3D printed and off the shelf parts
-----	---

Opportunities for Improvement

The mounting system can be changed from using a phone mount to a more standard ¼-20 mounting system.