3D printed acorn sheller

The goal of this project is create a safer way to smash and shell acorns. There is a base where the acorn can sit that has a handle attached so the base doesn't fly away. There is also a smasher that you use to hit the top of the acorn. The little slots around the acorn holder to allow the shell to fall outward. There is the original design that is bulky, and then there is the modified design that saves filament wherever possible. The only commercial known products of this are large machinery that are not specific on how they work. Otherwise, I have only found that people hold the acorn in their hand and hit the acorns with rocks.

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Bill Of Materials

<table>
<thead>
<tr>
<th>Part</th>
<th>Price</th>
<th>Quantity</th>
</tr>
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<tbody>
<tr>
<td>Any 3D Filament</td>
<td>$15.00 - $20.00</td>
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All .stl and .scad files are here: [YouImagine Acorn Sheller](#)
Tools Needed

- MOST Delta RepRap or similar RepRap 3-D printer

Technical Specifications and Assembly Instructions

This prototype is printed in PLA and has 20% infill. The original design took 11 hours to print. The modified design will take 13 hours. No assembly required. Place an acorn in the hole, hang onto the base handle and then use the smasher to hit the top of the acorn.

Fig 1: Base and Smasher

Fig 2: Modified Base and Smasher
Cost Savings

- Cost to print: Smasher - $1.62 | Base - $3.02
- Cost to print Mod: Smasher - >$1.62 | Base - >$3.02
- There is no commercial product available as of December 2020

Benefited Communities

- OSHE: [1]
- OSAT: [2]
- Communities that eat acorns: [3]
- YouImagine [4]
- Thingiverse [5]