LAC

LAC is an alternative milk distribution and delivery method, using gastronorms, 3D printed parts and standardised fittings. The design combats both hygiene issues as well as the incredible volume of waste from the 4 pint milk bottles.

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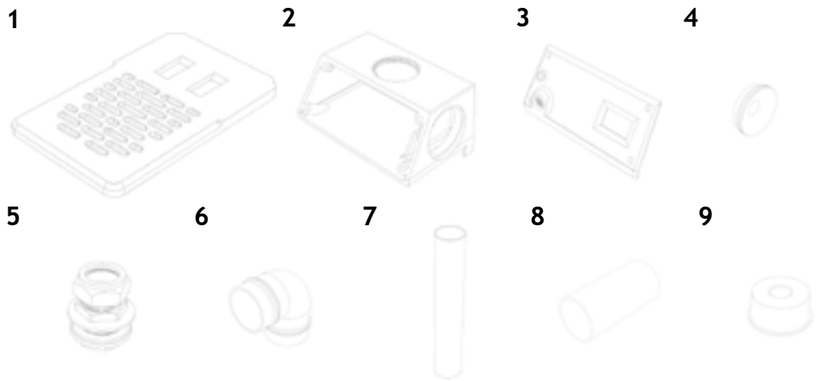
A great alternative to milk bottles

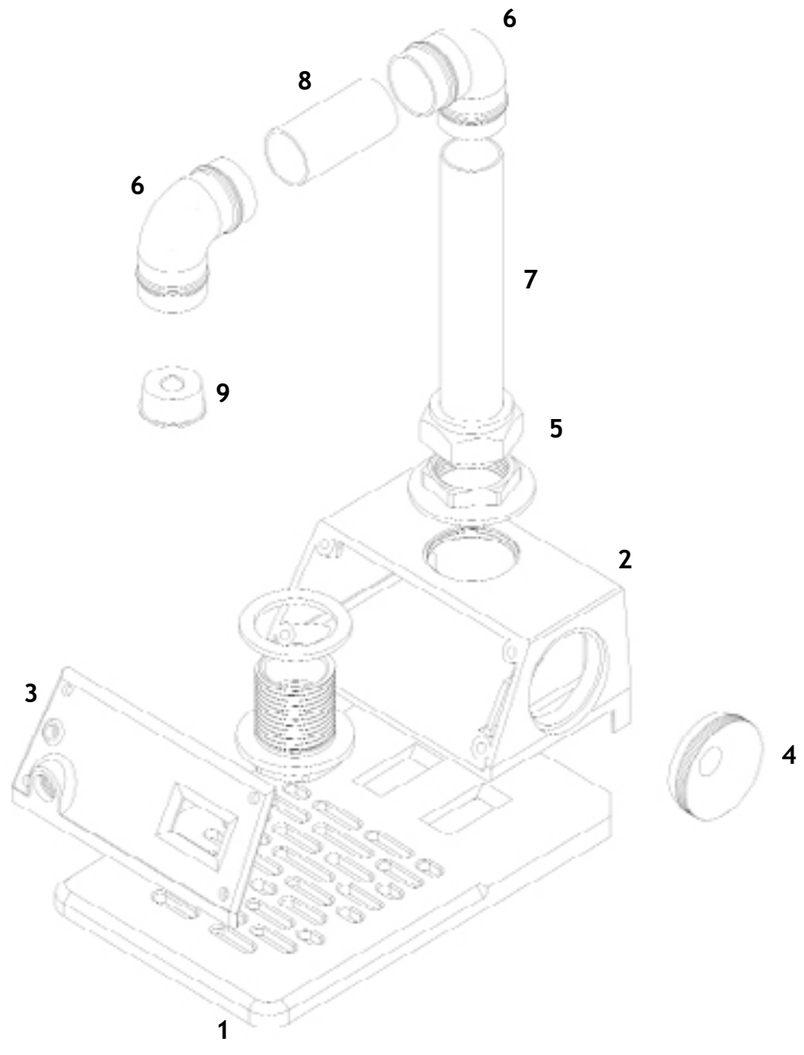
Alecia Carruthers, Barista


Jug Volumes
Small : 120 ml
Large : 220 ml

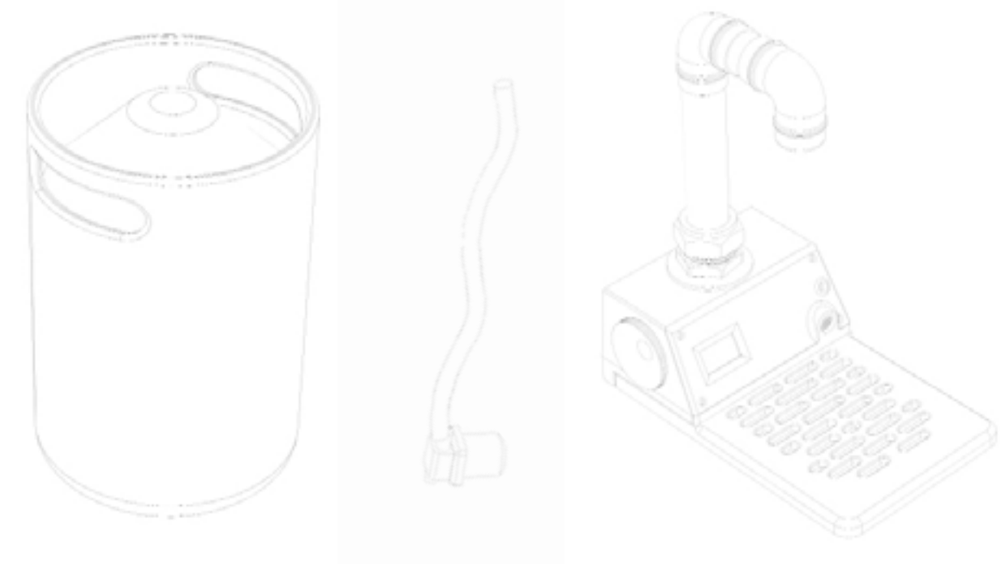
Assembly Instructions

1 - Gastro Plate
2 - Main Body
3 - Face Plate
4 - Rotary Dial
5 - 22mm Fitting
6 - 22mm 90 Bend
7 - 125mm 22mm Copper Pipe
8 - 45mm 22mm Copper Pipe
9 - End Cap





Outcome



3D Printed Parts

PETG is the recommended materal for its chemical resistance. Parts have been designed specifiacally for FDM 3D printing with all files avalible at:

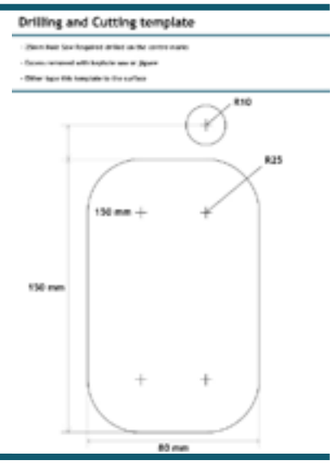
The parts avalible on thingiverse are open source and completely editable, but not for commercial gain under the Creative Common Liscence Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0)

Printed at 20% cubic infill for support

https://www.thingiverse.com/thing:4401754

Tools Required

Few tools are required, and can most likely be borrowed from either a plumber or a coffee machine service engineer.



Analysis

40kg

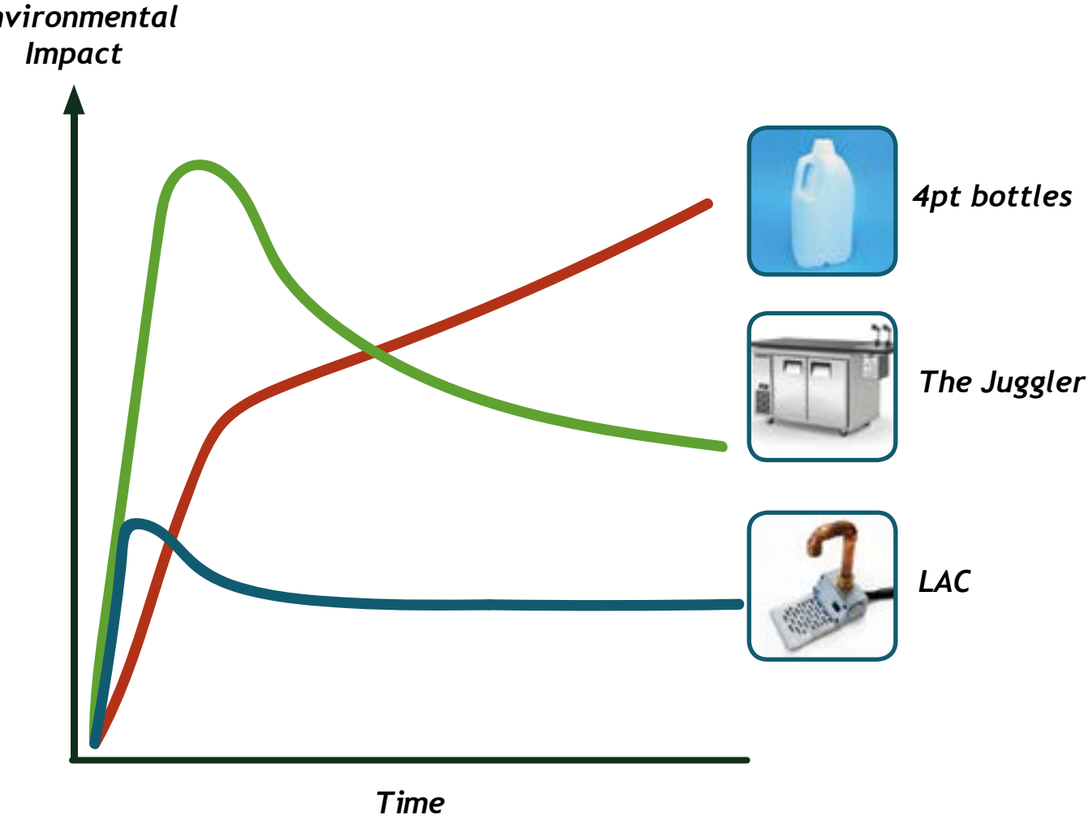
less plastic bottle waste each year for small cafes

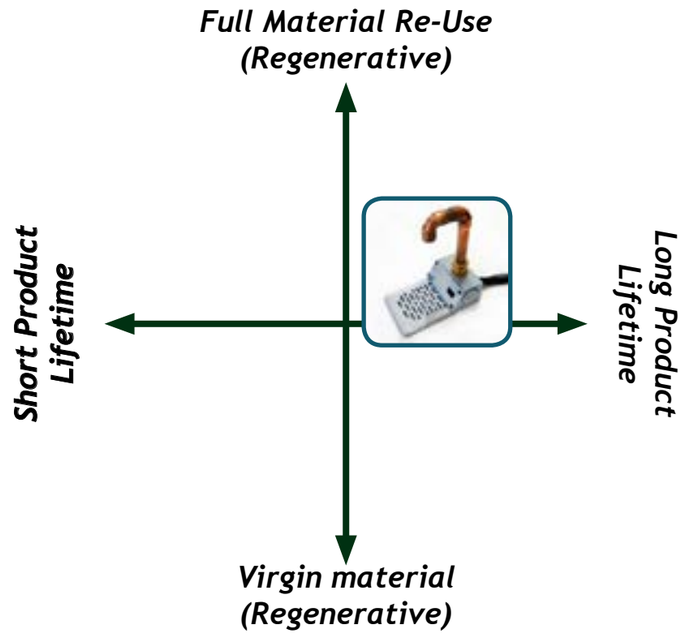
Hygiene & Productivity

LAC prevents a constant influx of 4 pint HDPE bottle into cafes and replaces them with either reusable metal kegs or 6 pint milk bottles. Simply using 6 pint bottles would use 1/5th less plastic, equating to 40 less kg for an average size small cafe every year.

Reduced startup cost compared to the various options avalible, allowing more more cafes to use the system and less waste to be produced.

Environmental





- The product prevents constant recycling and use of new HDPE milk bottles.
- The PETG material used can be recycled and turned into more filament and printed again. While this means it does have a further energy involvement, it does reduce the material waste.
- The copper pipe is also using competely reusable and recyclable materials
- The electronics are also standardised components and readily avaliable

Final Say

- LAC has the ability to transform the small cafe environemnt, improving the working environemnt for both staff and customers. It reduced strain on staff, but make them bend overless to undercounter fridges, as well as reducing wrist strain if using 6 pint bottles.
- The cheaper alternative to competant milk systems, fills the gap in the market for small cafes, allowing them to improve hygiene standards. Very seldom will bottle be sanitized before being brought into fridges.
- Both feedback from baristas and potential customers have shown that even from an early stage in the project, ontap milk is a time saving and beneficial addition to any cafe.
- The adaptability of the design allows for many existing parts to be used and integrating local makers improves both the attachment and longevity of the design.