

Mix Concrete	Receive instructions for print
Have premixed concrete poured in	Receive G-code from SD card
Vertical Auger in reservoir to mix concrete	Retrieve model/gcode from USB flash drive
Dropping dry materials into a whirlpool of water	Uploaded model via direct USB connection
Separate reservoir for wet and dry materials to common basin	Transmit file via wifi
Multiple sticks to stir the mixture	Transmit files via bluetooth
Horizontal augers, snowblower style	Have raspi do download the file from internet
User stirred	Have a pc attached to create models
User use a concrete vibrator & handheld drill to stir and get rid of air	Punch card processing
Spin entire reservoir that has fins in it	Have micro-controller download it from internet
User premeasured materials and adds to mixture	User input G-code

Criteria

Ease of Setup - due to the “waves of use” that is being expected. Simple and intuitive instructions would be of the utmost importance. A way to measure is how many questions an average user needs when first learning about the printer. These questions can be polled and put into a FAQ sheet.

Ease of Use - Once the printer gets setup, it will most likely need some fine tuning and multiple tests. Clearly labeled parameters and explanations of what they do will help future users fine tune their prints if the results are not the consistency they desire.

Clean up - Once the prototype is completed, the user will have to clean up the product to not destroy it. Clearly labeled cleaning procedures can be used to assist and speed up the process.

Print Accurately - When the user makes a prototype they expect it to be an accurate representation of their model. We can use cubes of varying sizes to test the dimensional accuracy at different sizes.

Ease of loading/unloading - In order to have additive printing, you need material. This material is heavy and can cause strain on a user. By optimizing the ergonomic standards for the reservoir we can reduce the amount of work of the user.