

Introducing Cornucopia, the food printer

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(PhysOrg.com) -- US scientists have introduced a concept design of the "Cornucopia" or Digital Fabricator, a "personal food factory" able to print food from specified ingredients, with no waste at the point of cooking.

The food printer is at the concept design stage, and would work by storing and refrigerating [ingredients](#) and then mixing them, cooking layers of the mixture and printing them onto a serving tray. The concept

design was introduced by two graduate students at the Massachusetts Institute of Technology (MIT) Fluid Interfaces Group Media Lab: designer/engineer in algorithmic image process development Amit Zoran, and designer and research assistant Marcelo Coelho.

The food printing process begins with selecting the required food canisters in which ingredients are stored and kept refrigerated. Ingredients are then fed into a mixing chamber and the mixture is extruded and deposited in layers of various and complex combinations of ingredients. During deposition of the layers onto the serving tray the ingredients are either cooked or cooled in the chamber or by heating/cooling tubes attached to the printing head.



The researchers say the [printing process](#) brings cooking technologies into the digital age and allows entirely novel textures and flavors to be

created that would otherwise be unimaginable and which are unobtainable through traditional cooking techniques. They say users would be able to control the nutritional value, quality and flavors in each meal through a touch-screen interface and Internet connectivity, which would allow them to manipulate parameters such as carbohydrate or fat content and calories. The design also allows for the food printer to be able to automatically order new ingredients and suggest an alternative ingredient if one runs out.



3D printers already exist (see, for example, PhysOrg's article on [3D printers for moon bases](#) and the [affordable desk top 3D printer](#)). The printers are becoming more common and are already being used in applications such as creating three-dimensional prototypes or models.

The researchers hope their concept will "provide a glimpse at the new

aesthetic and cultural possibilities, which can be brought forth by a new, digital gastronomy."

More information: Cornucopia:
web.media.mit.edu/~marcelo/cornucopia/

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