

Review Paper on Technology which makes 3D printed food

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Abstract

Food is one of the most important meals of our life without food no one can survive longer in this world. Till now all the survival and human beings of this planet eat handmade food or the food which is given by nature. But till now no one can eat food made by robots with the help of 3d printing technology. So now with the assistance of this innovation you can eat nourishment made by robots. We all know that this generation may not waste lot of their precious time in kitchen and make food for their family or for their love one's after coming from the work. In today's era Nourishments are winding up more redid and purchasers need sustenance that tastes extraordinary, looks awesome and is solid, so with the help of this technology we can easily make Nourishments and food which don't cause the regular diet of Patient. This technology is not only useful for our planet; astronauts can also use it in the space for their lunch, breakfast and dinner meal. Now below you are going to get some introduction about this technology and also about the working and construction of 3D Food Printer.

Keywords: - *3D Food Printing (3D FP), Technology (Tech.), nourishment (Nour.)*

Introduction

Addictive assembling is quickest creating fields in data innovation; it has immense social effect and caused the real change in our typical perspective of this world. Now where ever you see and whatever you watch in your surrounds you only get you only get addictive manufacturing. Addictive assembling applications covers different area in education of engineering in today's era such as from instruction to engineering and from mechanics to sustenance industry. Not exclusively does it give unending measure of conceivable outcomes in science and industry utilization, yet it very well may be use in solution, development, administration, and for amusement reason too.

As we all know that robotics is one of the most vastly used technologies in this world and also it is one of the most preferred stream's for today's youth. So, In all over the world most of the countries use automatic robots in their industry and reduce man labor to increase their production, improve the quality of material, reduce the error, get better finishing and to improve their market value of their material. So not only in technical area robots can also used in manufacturing of food and make it eatable and they make it possible only with the help of 3D food printer. We become more acquainted with as of late with the assistance of research and understudies from everywhere throughout the world that 3D Printer is a

standout amongst the most entrusting zones of Mechatronics Engineering. To make any shape and size of the 3D printed material we want to use different software. Mainly for designing purposes and accurate prototyping of 3D models we initially use computer aided design which is also known as CAD. Some other software's with the help of which we initialized the program such as AutoCAD, Creo Parametric, Autodesk and Solid Works.

Lit Review

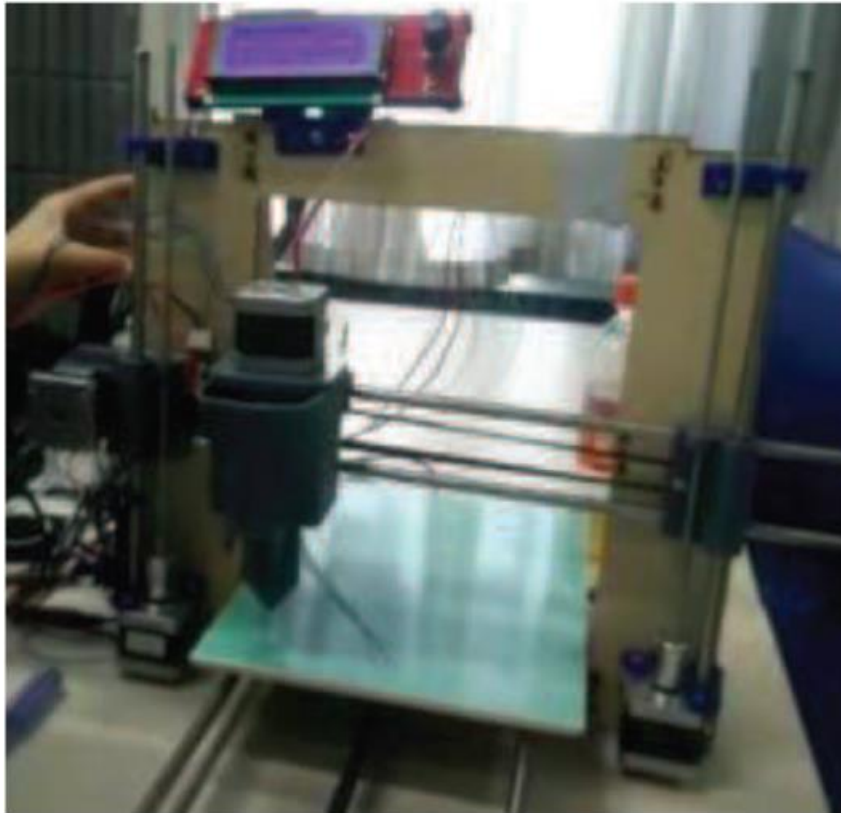
The principle thought of exhibited work is to create local printed 3D food printer with enhance and streamline framework by warming, conveying and cooling of sustenance substance [1]. The cost prize of this type of printer is not very costly [2].this is one of the most technical projects. In this we were using hardware and software both and process it combined. In this in hard ware we are going to using different types of sensor, chocolate raw material, gears, stepper motors, arduino, arduino wire, motor controller, wires, some batteries soldering iron and its wire.



[3]

The most imperative errand was to discover the best approach to amass subjective and minimal effort sustenance printer utilizing distinctive materials found in neighborhood showcase or from the web. Here we use chocolate as a raw material with the help of which we make 3D food. In this we will utilize arduino which is open source hardware model stage. The gadget between the two is the radiator associated with the expel and the little fan which use to control and chill off the temperature of the warmer. In the case of emergency with the help of cooling fan we can easily cool down the electric elements such as arduino. The wire which is shown in the figure is used to connect our PC to the arduino board only to upload programming [4]. Now let's make the frame of the 3D food printer. We make it with the help of any raw material such as wood, stainless steel, plastic but here we have used wood to construct the rack of printer as it make the printer light weight. But some parts of the printer are very delicate and we can say that if we make those parts with light weight it break down easily. So we construct those parts of plastic material with the help of 3D printer [5] which construct 3D shaped parts which we construct or design in solid works and AutoCAD. So with the help of this we can make 3D printed food. But now also designing part is left. This rendition of expel contained all the fluid based chocolate inside and the warmer would be put inside to it [6-7]. But now spiral doesn't work properly and some part of printer also doesn't

work accurately which effect imperfection in printing [8]. So to overcome this problem we have to make to make spiral softer and it is done when we put spiral into acetone solution. But due to this after some time spiral get become too soft then take spiral out from the solution of acetone which help to pulled of the excess plastic. In the wake of uploading the code and making the entire test on it, the extruder was finally moved and was prepared to make the printing [9]. Here we did by all the necessary formalities. And now we assemble the rack of the printer and then we can easily work on 3D food printer and make chocolates. Here we have to noticed that if we are using wood then it has a properties [10] of expand and stretching and sometimes due to this there should come some error in it.



[11]

Conclusion-

In recent years this technology has seen quite development. At current time this technology is in its development phase and only used on very special places on very special occasions for example in international space station and as we are going deeper and deeper into the space a mission to mars with human on it does not look very far fetched. This technology can be a go to source of food for the travelers as recent discoveries done by NASA has shown that farming any crops on mars in not currently possible. This technology provide us with very easy way to provide those travelers with a known taste while being millions of kilometers far from there home.

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