



ABSTRACT

Cake decorating is an art that should be learnt and improved with experience. Nowadays cake decorating has developed to a greater extent. More complex and beautiful designs and patterns are emerging day by day. As the complexity increases, the processes are being automated. Even though the large scale cake making and decorating equipment exist, they are too expensive and features may not be appropriate and worthy for small scale entrepreneurs. Therefore a small scale cake decorating machine integrated with the most basic features such as applying simple predefined icing patterns and printing icing letters/phrases on the cake will benefit for small scale entrepreneurs.

A CNC 3-axis controlled machine inspired by a 3D printer mechanical model equipped with an icing dispenser decorates the cake. The icing dispenser and the 3-axes are controlled by stepper motors. The size and shape of the cake should be forwarded to a GUI to customize the cake. After customizing the cake, the GUI will save data in a file and send data to a microcontroller which controls the cake decorator machine. Various cake decorating nozzles are used to apply various patterns using basic cake decorating techniques. The nozzles have to be changed by the user according to the pattern and once the icing dispenser is empty it should be filled manually.