A Minor Project Synopsis on

**IoT based Smart Assistance (Spoon) for Parkinson Patients**

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**Introduction:**

The technology for assisting people who are functionally challenged has improved over the recent decades. A group that suffer from this ailment are people with Parkinson’s disease. Parkinson’s disease (PD) is a neurological degenerative disease that causes uncontrollable shaking and makes it difficult for the affected person to eat.

There is no cure for PD, but there is technology and potential for new technology that can help people who carry the disease with their daily lives.

The aim of this project is to make a machine that can feed the said patient with no efforts needed that will pick the food and spoon feed it to the patient. With a low budget, the goal is to make a highly efficient prototype that consists mainly of a microcontroller and servo motors.

**Motivation:**

The motivation of this project is to investigate how an Arduino microcontroller and servo motors can be implemented to help people with impaired motor skills.

**Project Objective:**

With today’s technology, people with Parkinson’s disease can, with a device on their wrist, be able to draw pictures. And such stabilizing techniques have been used to make stabilizing spoons to assist people who need assistance during their eating process.

The pros and cons of existing technique is

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| --- | --- |
| **Pros** | **Cons** |
| It helps functionally challenged people to eat with more ease | The person has to hold the spoon in his hands that is still inefficient. |

We are aiming to design a machine that is mu more functional and easier for the patient to use.

**Methodology:**

1. Obtaining all the hardware required for the project
2. Deciding on all the small tasks the machine should be able to perform.
3. Building the working model with all the motors attached.
4. Coding the different small tasks on different motors one by one in the chronological order and making each part work with all previously achieved tasks.
5. Applying ML algorithms for image detection and to detect the mouth of the person.
6. Coding the machine to pick the food from the bowl and slowly feed it to the person.

**Facilities required for proposed work:**

1. Arduino / Raspberry Pi
2. Servo Motors
3. Camera Module
4. Wi-Fi Module

**Bibliography / References:**

1. The Stabilizing Spoon: Self-stabilizing utensil to help people with impaired motor skills, by JOHAN ABRAHAMSSON and JOHAN DANMO.
2. Parkinson’s Tremor Stabilization Spoon by Gifty E B , Vandana M.