INTRAORAL 3D SCANNER

Intraoral scanning is a 3D dental imaging method which captures a digital replica of one's teeth. The device has a small , wand-shaped camera which captures thousands of images and stitch them together and immediately convert them into a digital model.

In order to do feasibility study, We should know how it works and what are all the process that runs throughout which eventually gives us a final 3D digital model of the teeth.

Intraoral scanners commonly come in the form of a small wand that's inserted into the patient's mouth. At the tip of the scanner is a light-equipped camera that scans the patient's teeth and mouth into a 3D model. To attain better image, quality resolution and color scanning, the images are fed to imaging algorithm which produces intelligent data optimization using AI.

These 3D intraoral scans are used for several dental applications like Dental Crowns, Night guards, Dental implant restoration, Study those models which can aid in treatment planning etc.

REQUIREMENTS AND FUTURE WORKS PLANNED FOR THE FEASIBILITY STUDY

- Figure out what are all the possible techniques used to capture dental images like lens less camera etc.
- Study on imaging algorithm and optimization techniques which can help to capture image with better quality
- Study on computational complexity for the algorithms to make things smooth for real time visualization.
- Hardware components (analog filters) which can support the process
- How to stitch those captured 2D images together to form 3D model
- Study on existing intraoral 3D scanners to get detailed idea and processes.