DAILY ASSESSMENT FORMAT

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Course:	Satellite Photogrammetry and its Application	USN:	4AL17EC073
Topic:	Steriophotogrammtery	Semester & Section:	6 & B
Github Repository:	https://github.com/alvas-education-foundation/Prajwal-Kamagethi.git		

SESSION DETAILS
Session images

Split screen viewing

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Left monitor

Right monitor

Lateral positioner for monitor

Vertical positioner for monitor

Mirror

Optical system

Mirror

TOP VIEW

Left image

Right image
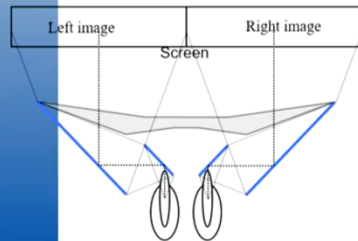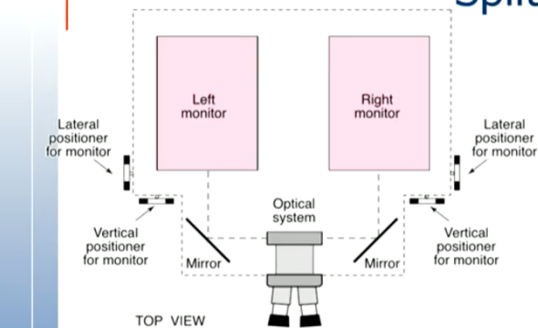
Screen

Screen Stereoscope

Corresponding image points are separated such, that the left eye's point is left of the right eye's point.

Point appears behind the screen.
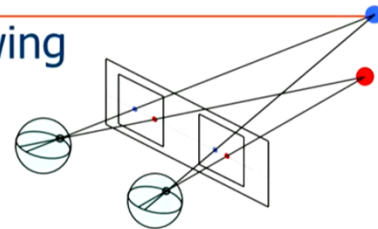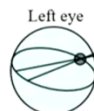
Screen

Corresponding image points are separated such, that the left eye's point is further right than the right eye's point.

Left eye

Right eye

Point appears in front of the screen

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Ste...ogrammetry

Report:

- Methods that allow for the objective assessment of facial form are becoming increasingly important for research in dysmorphology, genetics, orthodontics and surgical disciplines among others.
- Such methods also have the potential to enhance clinical care by facilitating surgical planning, improving outcome assessment, and aidingin syndrome delineation .Non-contact 3D surface imaging systems are rapidly replacing traditional "hands-on" anthropometry as the preferred method for capturing quantitative information about the facial soft-tissues.
- advantages: minimal invasiveness, quick capture speeds (often under one second), and the ability to archive images for subsequent analyses .In addition, a number of independent studies have demonstrated a high degree of precision and accuracy across a wide variety of 3D surface platforms .
- The safety, speed and reliability of data acquisition that these systems offer are particularlyhelpful when working with young children, for whom quantification of facial features can be challenging .
- The most common class of 3D surface imaging system is based on digital stereophotogrammetric technology. These systems are capable of accurately reproducing the surface geometry of the face, and map realistic color and texture data onto the geometric shape resulting in a lifelike rendering .
- The mathematical and optical engineering principles involved in the creation of 3D photogrammetric surface images have been thoroughly described.
- The combination of fast acquisition speed and expanded surface coverage (up to 360 degrees) offer distinct advantages over older surface imaging modalities like laser scanning.With decreasing cost, 3D stereophotogrammetric imaging systems are becoming increasingly common in clinical and research settings .
- With any new technology, a number of factors must be considered in order to achieve optimal performance.
- Though camera manufacturers provide suggestions for device set up and calibration, limited information is available on the practical issues that will inevitably confront new users of this technology.
- However, such issues can adversely impact the reliability of data collection, and consequently, influence the clinical and research study results. In
- order to ensure optimal interpretation of the study results, all aspects of data collection should be rigorously evaluated .
- The name photogrammetry comes from two Greek words, phos 'light' and gramma 'writing'; it has been defined as the art, science and technology of obtaining reliable quantitative information about physical objects and the environment through the process of recording, measuring and interpreting images and patterns of radiant or transmitted energy derived from sensor systems.

Comparision of collinearity and coplanarity condition:

- The present work emphasizes on using collinearity condition, coplanarity condition and DLT method for determining the camera exterior orientation parameters.
- The derivation of the mathematical formulation based on each suggested methods is explained. The comparison of the results of the methods was performed based on accuracy aspects using mathematical and actual photogrammetric data.
- The used data shows that the suggested methods are suitable for camera exterior orientation parameters determination for a block of photographs of any size.
- The results of this investigation prove that the accuracy of using coplanarity equations is slightly better than using collinearity equations or DLT method.
- Although the results of the DLT method are less accurate than those of using collinearity or coplanarity equation, DLT method is essential when the necessary information for the collinearity or coplanarity model is not available.