

Virtual Lab Experiment Manual

Objective: To find out the location of the object by using intersection method of plane table surveying.

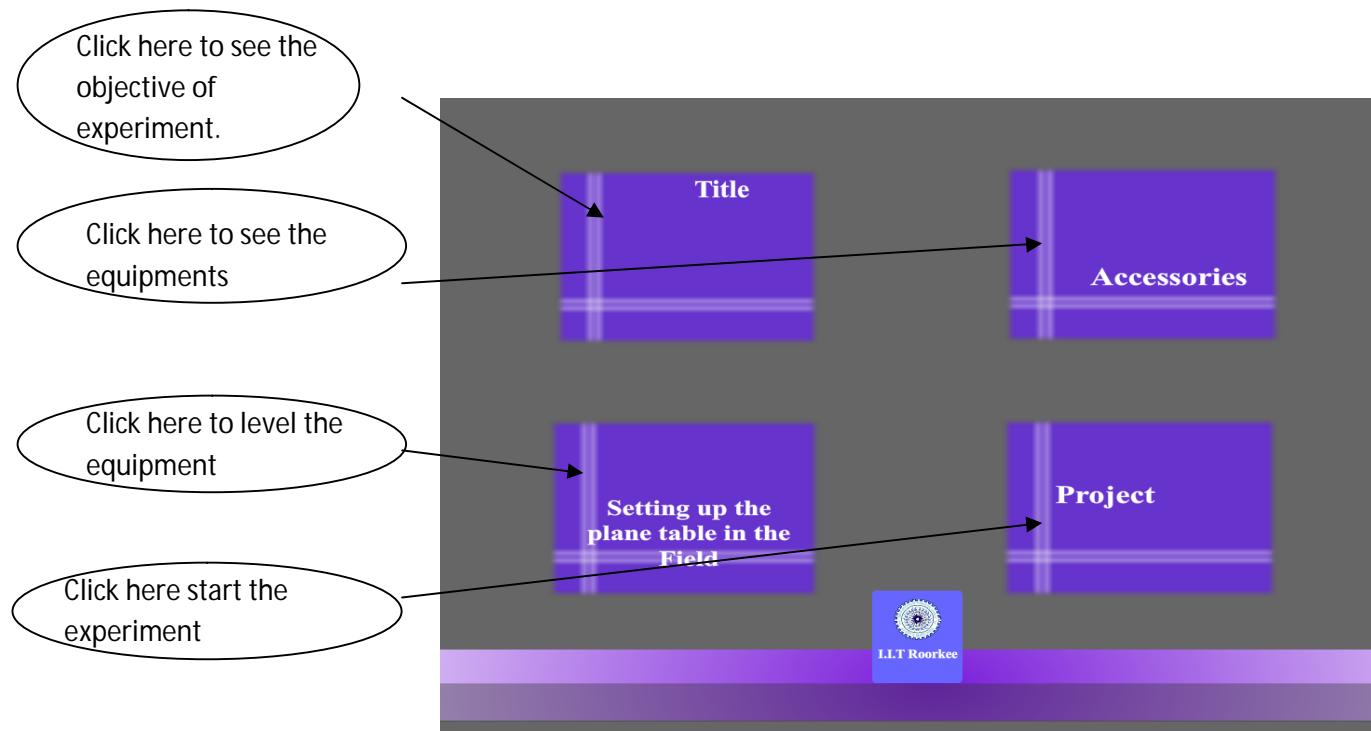
Equipment details:

1. Plane table and Tripod
2. Plane alidade
3. Magnetic compass
4. Plumbing fork
5. Spirit level
6. Telescopic alidade
7. Tangent clinometers
8. Stadia rod
9. Measuring tape.

Procedure: How to carry out this experiment in 2D environment on a computer system.

Steps to be followed:

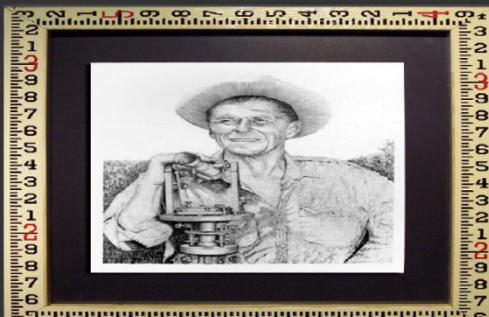
Step 1: Click on the main file until home screen appears as shown in the picture below:



By clicking on '**title**', following screen appears:

Plane table surveying

Intersection method in Plane Table is used when the area covered is large and having undulating terrain. In this method, the location of an object is plotted on the table by bisecting the object from two known Plane Table stations.



A black and white photograph of a man wearing a hat and a long-sleeved shirt, holding a complex surveying instrument called a plane table. The instrument has a large eyepiece and a body with various adjustment knobs and a compass rose. The background shows a field with some trees.

Method-Intersection

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By clicking on '**accessories**', following screen appears:

Plane table and Accessories

Plane Table and Tripod
Plane alidade
Magnetic Compass
Plumbing Fork
Spirit Level
Telescopic alidade (This item is circled in red)
Tangent clinometer
Stadia Rod
Measuring Tape

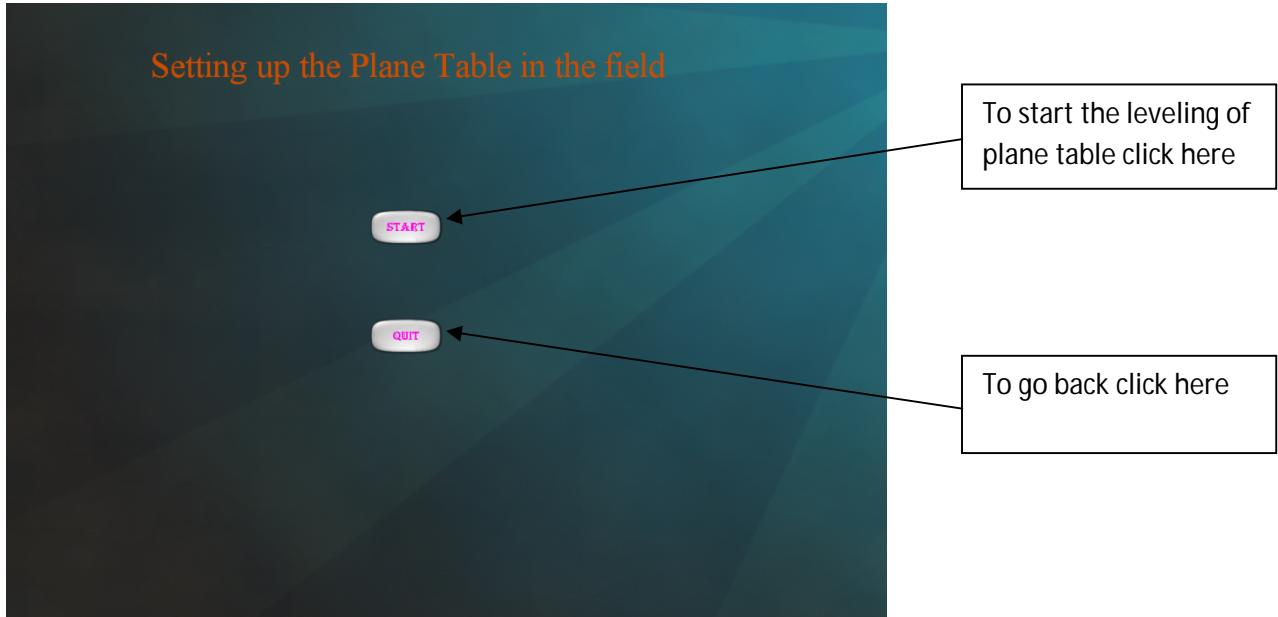


A close-up photograph of a gold-colored plane table instrument. It consists of a telescope mounted on a tripod base with various adjustment knobs and a circular level. The instrument is set against a plain white background.

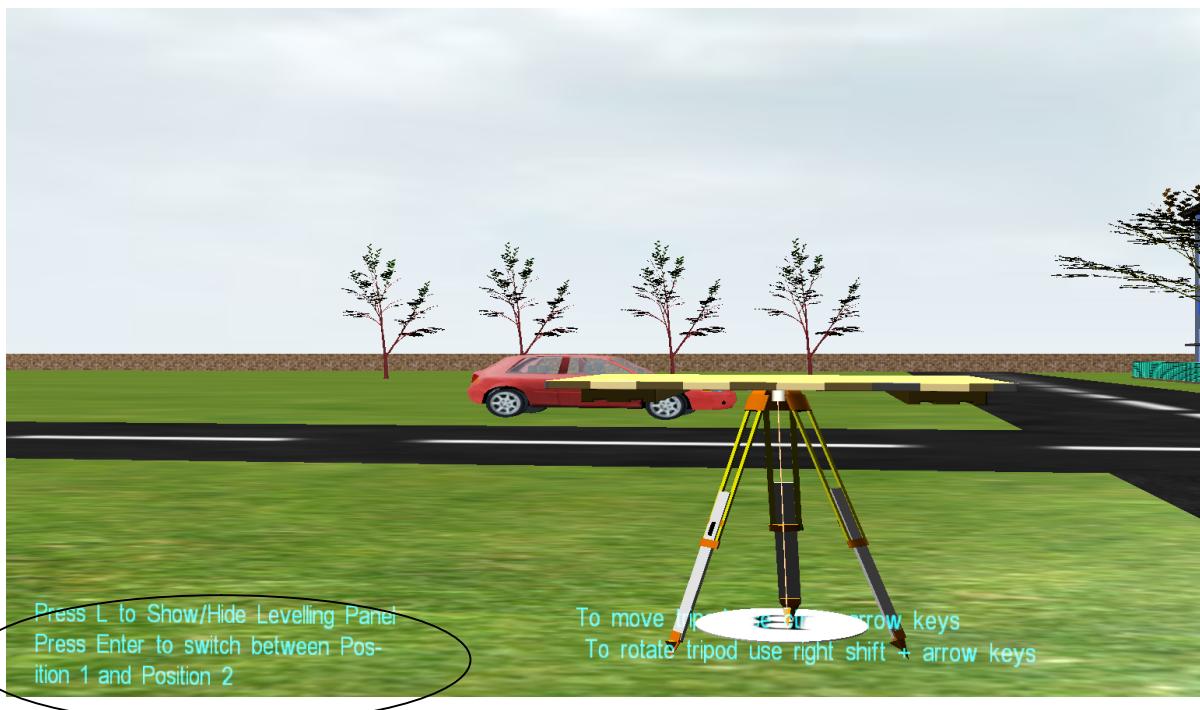
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Click on the name of equipment to get its view

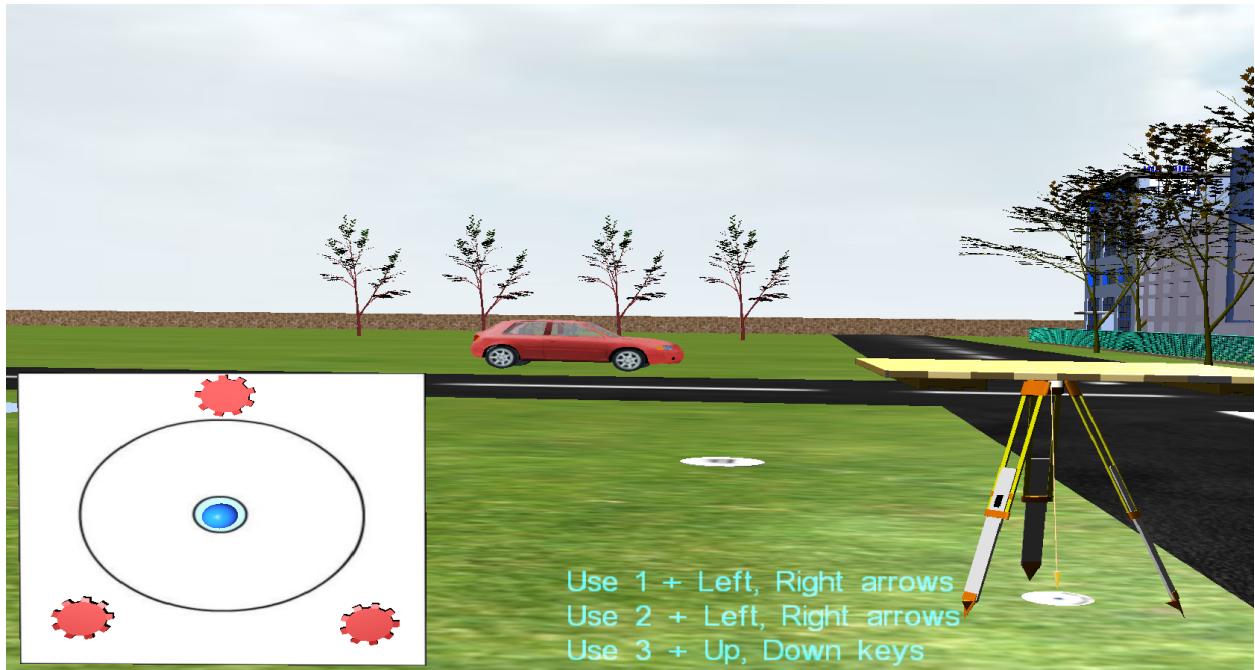
Step 2: By clicking on 'setting up the plane table in the field', following screen appears:



By pressing 'start' the following window appears:



Press '**L**' to see leveling panel:



Leveling keys:

Use 1+ left, right arrow

Use 2+left, right arrows

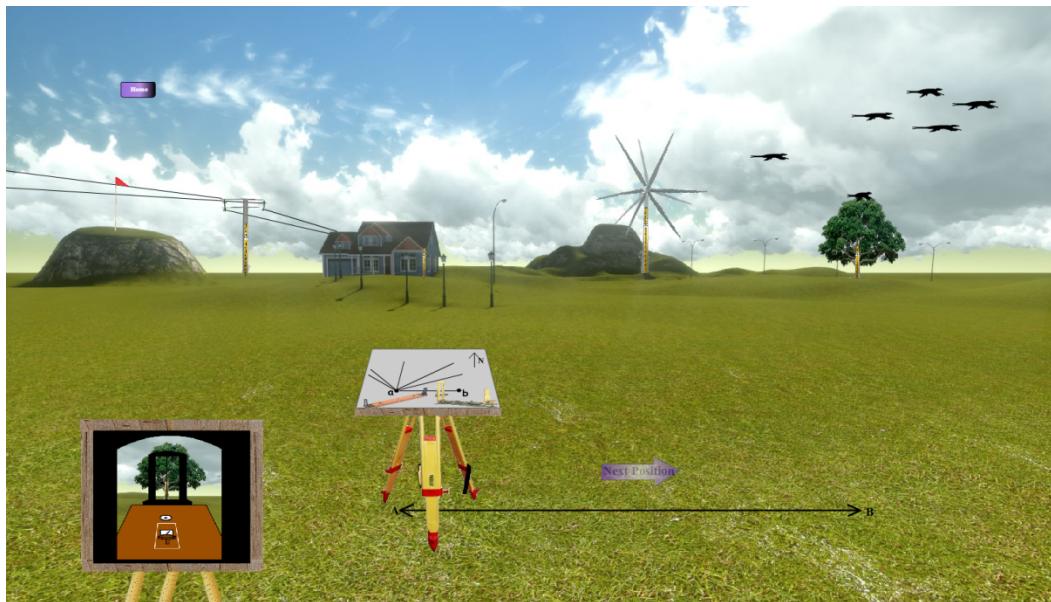
Use 3+up, down keys

Step 3: By clicking on '**project**' experiment starts and we get a 2D and realistic environment which is user friendly:



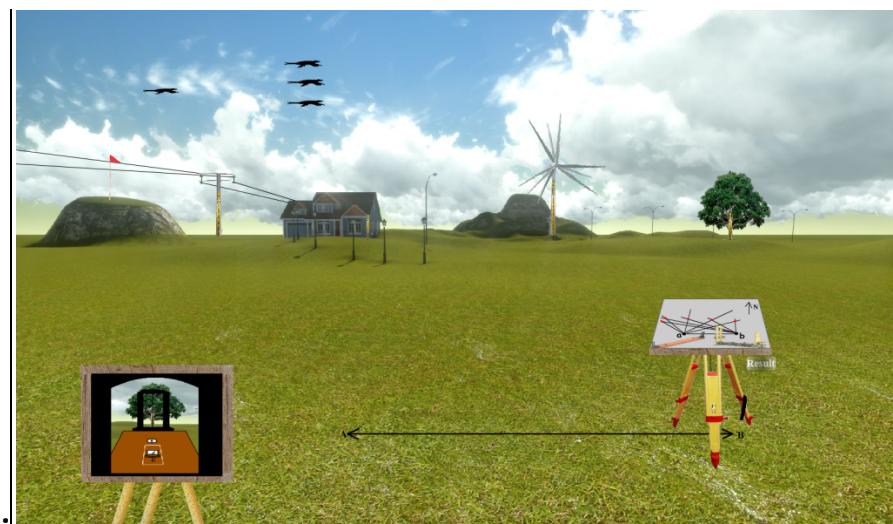
There are five objects (flag, pole, house, windmill and tree) where readings are to be taken. Initially plane table is located at position A.

Click on the object to get the telescopic view through alidade and a line is drawn parallel to the line joining the intersection of cross hairs and the object as shown :



Click on '**next position**' after taking all 5 observations to move to the position B.

Repeat the step 3 at B.



Step 4: Click on 'result' to get the final result which is shown as:

