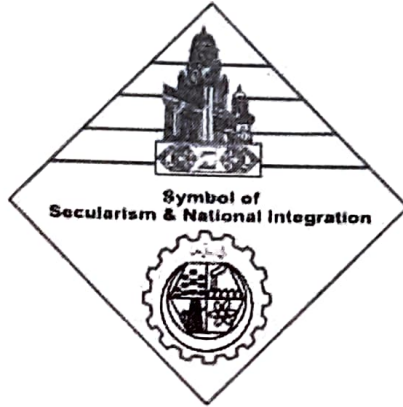


Anjuman-i-islam's

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MICRO PROJECT ON 3D ISOMETRIC MODEL

Topic: 3D ISOMETRIC MODEL

Aim: REPORT ON 3D ISOMETRIC MODEL

Branch: Electronics and Telecommunication

Guide Teacher: Mr FAHAD ANSARI SIR

Students Involved:

210523 Fuazan Bhadalia

210507 Affan shaikh

210520 Mohammed Anas

210508 Zaid Khawaja

I Master Shaikh Affan Inayat, studying in First Year Electronics and Telecommunication Engineering, My roll number is 210507 would like to present My micro project on "3D ISOMETRIC MODEL" for the subject of "Engineering Graphics".

Following are my group members .

- Zaid Qutbuddin Khawaja 210508
- Mohammad Anas 210520
- Mohammed Fauzan Bhadalia 210523

I express my sincere gratitude to our guide Mr. Fahad Ansari Sir for guiding me through out the making of this project

1.0 Rationale

Isometric projection is a method for visually representing three-dimensional objects in two dimensions in technical and engineering drawings. It is an axonometric projection in which the three coordinate axes appear equally foreshortened and the angle between any two of them is 120 degrees.

The term "isometric" comes from the Greek for "equal measure", reflecting that the scale along each axis of the projection is the same (unlike some other forms of graphical projection).

Some 3D shapes are using the isometric drawing method. The black dimensions are the true lengths as found in an orthographic projection. The red dimensions are used when drawing with the isometric drawing method. The same 3D shapes drawn in isometric projection would appear smaller; an isometric projection will show the object's sides foreshortened, by approximately 80%.

An isometric view of an object can be obtained by choosing the viewing direction such that the angles between the projections of the x, y, and z axes are all the same, or 120°. For example, with a cube, this is done by first looking straight towards one face

In a similar way, an *isometric view* can be obtained in a 3D scene. Starting with the camera aligned parallel to the floor and aligned to the coordinate axes, it is first rotated vertically (around the horizontal axis).

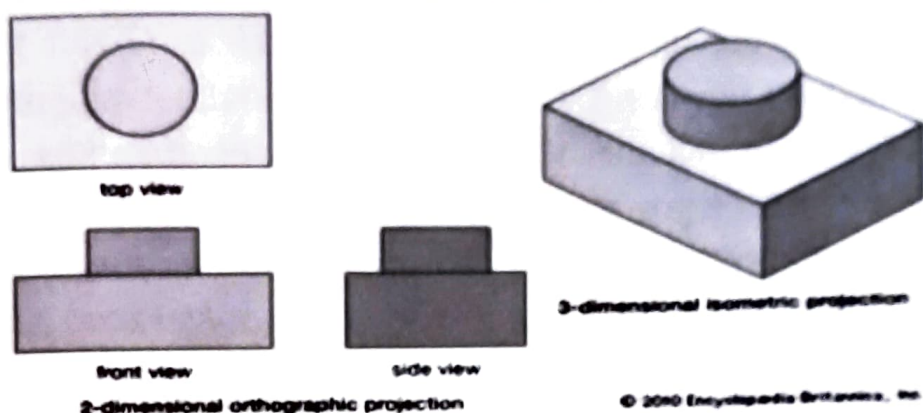
Another way isometric projection can be visualized is by considering a view within a cubical room starting in an upper corner and looking towards the opposite, lower corner. The x-axis extends diagonally down and right, the y-axis extends diagonally down and left, and the z-axis is straight up.

2.0 Course Outcomes Addressed

- Draw geometrical figures and engineering curves.
- Draw the views of given object using principles of orthographic projection

3.0 Literature Review

Orthographic and isometric projections of an object



projection, in cartography, systematic representation on a flat surface of features of a curved surface, as that of the Earth. Such a representation presents an obvious problem but one that did not disturb ancient or medieval cartographers. Only when the voyages of exploration stimulated production of maps showing entire oceans, hemispheres, and the whole Earth did the question of projection come to the fore. Mercator produced the simplest and, for its purposes, the best solution by in effect converting the spherical Earth into a cylinder with the open ends at the poles; this cylinder was then opened to form a plane surface. East-west and north-south directions could be represented with fidelity, and the distortions in size became

gross only near the polar regions (rendering Greenland, for example, disproportionately large). The Mercator projection is still widely used, especially when north–south dimensions are of chief importance. Many other projections are used, for example, the conic projection, drawn from a point directly above the North or South Pole. All projections involve some degree of distortion, and those showing the entire Earth involve a large degree.

Of late, higher education institutions have been trying to provide students with both hard skills, namely cognitive knowledge, professional skills(7) and soft skills, such as problem-solving and teamwork(8) . But, as long as traditional teacher centric teaching methodologies continue, the learning outcomes like students' content knowledge, conceptual understanding, and course achievement cannot be realized.(9,10) . In contrast, project-based learning (PjBL) — a learning process in which students are engaged in working on authentic projects and the development of products, can engage students in knowledge construction by having them accomplish meaningful projects and develop real-world products(11,12) . PjBL, motivates students with driving questions with a focus on learning goals, participation in educational activities, collaboration among students, the use of scaffolding technologies, and the creation of tangible artifacts. This process of creating new knowledge allows students to test and achieve their ideas in the way they want, which promotes their innovation competence

4.0 Actual Methodology Follow

Me and my team members has put a lot of efforts and gave our best to make this Project more creative and attractive. In our team we are four members Fauzan , Anas ,Zaid ,and me Affan .

First we have decided to divide the work so that we can finish our project early before the submission date we have divided the work into two parts me and Zaid has decided to make isomeric 3D model and Anas & Fauzan has decided to make a report on it.

For making model I have used a mount board and some colourful printed papers to make the model more creative so we have used 3 colours to show the side views of the isometric model.

i.e Blue ,Red , & pink colour printed papers we have used. Blue for front view, red for top view & pink for side view.

For report writing Fauzan and Anas has made report from word document they collected all the information about isometric 3D model and then

they put all the information in the report and some additional information in it and then create a document of it

5.0 Actual resource used

S.No	Name of resource /material	specifications	Qty	Remarks
1.	Mount board and coloured printed papers	Hard paper which is called mount board and colourful papers	5,3	We have used mount boards for making mode .because its material is hard and its good for making model and colourful papers for showing sides from different colours. To understand
2.	Scissor and glue	For cutting materials and glue to stick materials	1,1	Scissor for cutting and glue for sticking materials

6.0 Outputs of the micro-project

The model we have got

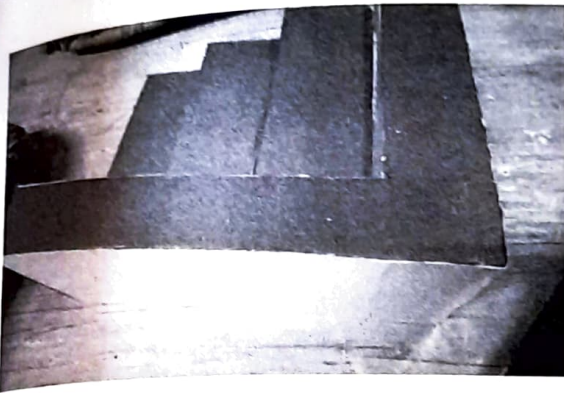
Front view



Top view



Left hand side view



Right hand side view

7.0 Skill developed and learning outcomes from this micro-project

From this project we have learnt the team work we have learnt how to do any work in unity how to interact with someone .we have learnt how to solve any problems together how to face difficulties in any situation and try to sort out the problems. We try to correct group mates wrong things. From this project we have learnt that if we will do anything in unity we can do anything.

8.0 Benefits of this micro project

Isometric drawings are very useful for designers – particularly architects, industrial and interior designers and engineers, as they are ideal for visualising rooms, products, and infrastructure. They're a great way to quickly test out different design ideas.

There are a number of other situations in which isometric projection is useful. In wayfinding systems, for example in museums or galleries, an isometric wall maps can show visitors where they are in the building, what is going on elsewhere, and how to get to get around.

9.0 Area of future improvement

From this project we learnt to make isometric models with the help its dimentions and in future we can improve our skills by using different resources to make isometric design and we can draw models digitally also. In this growing ecosystem in the future the new technology will also come so we can improve our more better.

THANKYOU