

TiE University – Business Challenge for TiE Hackathon, March 12-14 2021

Challenge: **Define solution for 3D virtual walkthrough of a house**

Problem Statement

Turn 2D architectural drawings of a house into 3D images allowing virtual walkthroughs. The 2D drawings will be provided as DWG files and these need to be imported into software that accurately shows the design of the house and allows a virtual walkthrough. The view shown on screen moves as the viewer moves and turns. To get an idea of the end requirement, do a search on Youtube using the key words: 3D home design walkthrough. Be sure to view the videos that depict software rendered 3D designs, not camera footage.

Detail

1. Search the market to see find software products for 3D virtual walkthroughs.
2. Examine each product and shortlist the ones that could meet the requirement.
3. Understand ease of use, both to upload DWG files and to run the walkthroughs.
4. Run tests by loading up the sample DWG files and observing the outputs.
5. Sample DWG files will have both the 2D floor plans and the outside wall elevations.
6. Understand design add-on or change capability, for eg. for adding virtual furniture.
7. Understand costs for using the software, both purchase and license options.
8. Prepare report or presentation showing the findings.

Expectation

A solution can be found with a vendor who is willing to engage in detailed conversations leading up to a service or purchase contract. The shortlist should have 4 or 5 solutions, but in case of issues locating solutions, a minimum of 3 options is needed. Solutions can be sourced from any country, as long as the language of use is English.

Evaluation

1. Care and attention paid by the project team in ensuring an accurate pick up of the 2D design to obtain a faithful 3D virtual replica of the house, including all dimensions, proportions, location of doors, windows, inside walls, stairs and fitted units.
2. Comprehensive analysis of implementation cost.
3. Highlighting of the challenges or issues in setting up the solution or using it.