- the navigation graph is badly suited for finding paths for moving objects of different sizes, since when placing the vertices of the graph, you have to focus only on one specific character size.

The method of combining heuristics in 3D space [6] involves the use of a special algorithm for solving a problem situation for a small number of common cases of the need to circumvent the obstacle. A possible example is an attempt to collide with the obstacle to find a ray with a minimum deviation from the viewer's vector of a character that does not intersect with the 3D world polygons. In the case of finding such a ray, the character moves along it, and then tries to follow the end point on the straight path.

The navigation mesh method [7] assumes the assignment of a polygon 3D space model. Then there is a rule that there is a path between any two vertices of a convex polygon located inside this polygon. Using this method, it is difficult to consider dynamic objects, since this requires large computing power.

Conclusions

Our model allows to unify the rules for representation of 3D objects in learning systems. This method modulates algorithms for finding a path in 3D space and gives the ability to exchange patterns between systems of different developers.

Further directions in the research are the analysis of the sufficiency of a set of model parameters for solving various problems of representation of interactive objects in teaching systems.

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