**Blog 1**

In the era of Artificial Intelligence, many challenges the game developers have to face, eg. finding optimal path or creating decision trees, is similar to common problems people solve everyday, though they are not always aware of it. Out of many promising techniques popular in the field, there is one worth deeper analysis – Behavior Trees, the mathematical models of plan execution. BT are formed by hierarchical organisation of behavior subtrees consisting of nodes, that are ready to run before being called. They describe the process of switching between a set of tasks in a modular fashion, what makes them similar to Directed Acyclic Graphs, as they both are some sort of a set of vertices connected by the edges and both exclude cycles in their implementation.

On beginning of tree traversal all nodes are ready for execution. Once the root (node 0) has been visited, the system proceeds to checking its child nodes (left-to-right order) until one of them returns a *running* or a *success* state, what happens when *leaf*  fulfills the requirements, usually described by a separate element closely related with the node.

Regarding the distinguishing features of the Behavior Trees and clarity of the process, the game developers may found it usefull in almost any kind of the game, especially in case of complex strategic video games, when the machine needs to make hundreds of decisions concurrently based on the situation.