Unreal Engine - Hierarchical Task Network Planning AI

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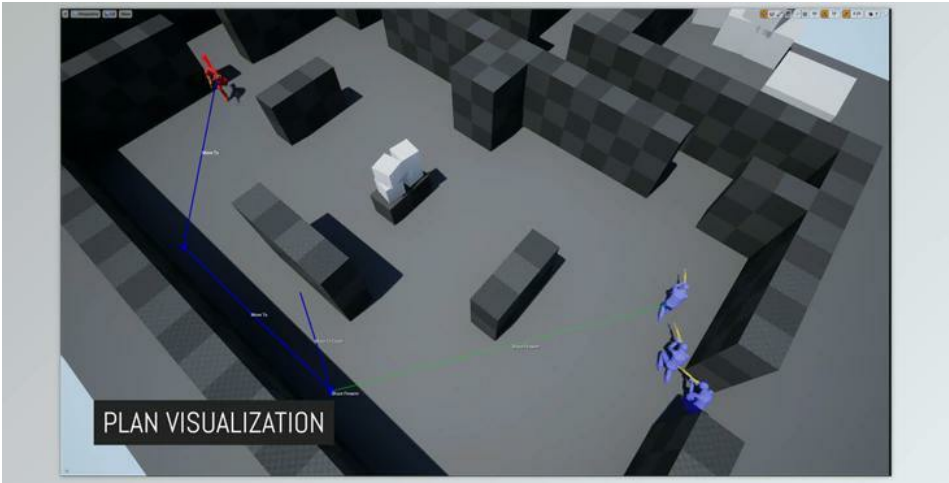
Unreal Engine - Hierarchical Task Network Planning AI:

Introducing our cutting-edge Hierarchical Task Network (HTN) Planner, a powerful and flexible alternative to Behavior Trees that empowers you to design intelligent AI with unprecedented control and efficiency. This fully-featured solution offers a node-based HTN graph editor, seamlessly integrating Blackboard data to store and manipulate knowledge about potential future world states. Whether you're working with C++ or Blueprints, our HTN planner allows you to effortlessly create custom Tasks, Decorators, and Services.

Node-Based HTN Graph Editor:

- Visualize and design your AI logic through an intuitive graph editor.
- Create, organize, and connect nodes to represent hierarchical task structures.

Seamless Blackboard Integration:

- Utilize Blackboard data to store and modify knowledge about future world states during planning.
- Make informed decisions based on potential future states.

Customizable Tasks, Decorators, and Services:

- Develop tailored AI behaviors in both C++ and Blueprints.
- Enjoy the flexibility to create tasks, decorators, and services that suit your specific requirements.

Composable Behaviors with Subnetworks:

- Build complex AI behaviors by creating composable subnetworks.
- Easily integrate and reuse subplans within larger plans for enhanced flexibility.

Cost-Based or Priority-Based Planning:

- Optimize AI decision-making with the ability to plan based on either cost or priority.
- Find the most efficient plan or the one with the highest priority.

Parallel Planning and Any-Order Planning:

- Achieve advanced AI capabilities with parallel planning.
- Allow for any-order planning to enhance the autonomy and flexibility of your AI.

Integration with Visual Logger:

- Visualize and debug your AI logic in real-time using the Visual Logger.
- Gain insights into the current plan for efficient troubleshooting.

Environment Query System Integration:

- Leverage the Environment Query System for intricate movement planning and decision-making.
- Enhance AI's adaptability by integrating complex queries into the planning process.

Realtime Debugging Features:

- Debug your AI logic efficiently with built-in real-time debugging features.
- Identify and address issues promptly to streamline the development process.

HTN Component Extension:

- Extend the functionality of the HTN Component using HTN Extensions.
- Tailor the planner to your specific project needs.

Full Source Code Access:

- Enjoy complete transparency and control with full access to the source code.
- Customize and enhance the planner according to your project requirements.

Empower your AI development with our HTN Planner, striking the perfect balance between the rigidity of Behavior Trees and the flexibility of Goal-Oriented Action Planning. Whether you need precise sequences of tasks or the freedom to arrange tasks dynamically, our HTN Planner offers unparalleled autonomy and adaptability. Elevate your AI development experience with our comprehensive and efficient solution.

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