

Features

1. Time & Scheduling

- **Clock & Timetable**
 - **UManicClockPluginBPLibrary**: Set or advance in-game time (SetInGameClockTime, TickManicClockAndGet).
 - **FManicTime**: Defines day/hour/minute/second slots.
 - **UManicTimetableNodeBPLibrary**: Finds the active timetable slot for a given time.
 - **UManicServiceSetTimeKey** (BT Service): Updates Blackboard keys with the current time or an active slot name.
 - **Day of the Week**
 - **UManicDayOfWeekBPLibrary**: Converts day numbers into weekday strings (e.g. 1 → “Monday”).
 - **Time Events**
 - **UManicTimeEventBPLibrary**: Detect if current time has reached a target (daily or once-only triggers).
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2. AI Behaviour Tasks

- **Find & Move**
 - **UManicFindActorInRegion**: Searches a radius for an actor of a specific class, checking a boolean property (e.g. bIsFree).
 - **UManicTaskFindSpotInArea**: Randomly picks a reachable point within a radius.
 - **UManicTaskGoToLocation**: Finds a random spot and moves there, re-trying if it times out.
 - **UManicTaskMoveToTarget**: Moves AI to a Blackboard actor or location, with obstacle checks.
- **Obstacle Avoidance & Stuck Detection**
 - **UManicObsAvoidance**: Offsets the AI’s goal if blocked, detects if it’s stuck, and fails if movement is impossible.

- **Actor Finding Variants**
 - **UManicTaskFindActor**: Finds the closest actor of a given class.
 - **UManicTaskFindFreeActor**: Similar to above, but ensures no other AI is targeting that actor.
 - **Interaction**
 - **UManicInteract**: Executes a custom “PerformGenericAction” on the AI Controller and optionally waits.
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3. Dynamic Needs System

- **UDynamicManicNeedsComponent**
 - Tracks multiple “needs” (e.g. hunger), each ticking up or down at a chosen rate.
 - Fires OnAnyNeedThresholdCrossed when a threshold is reached and OnAllNeedsUpdated every tick call.
 - Add/remove or adjust needs at runtime (AddNeed, RemoveNeedAtIndex, etc.).
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4. AI Controller

- **AManicAiController**
 - Holds a ControllerTimetable array (alternative to the service’s internal timetable).
 - ActivityMap (string → soft object pointers).
 - **SetActivityKeyOnBlackboard**: Loads an actor from the map and sets it in a Blackboard key.
 - **PerformGenericAction**: A Blueprint event for AI-specific actions.