A Brief Note Before You Begin…

First, thank you for downloading the Clarion Library, version 6.1.1!

This is the 1st release since April of 2012 and as such represents a significant enhancement over 6.1.0.7. If you are not already familiar, the Clarion Library is the premier implementation of the Clarion cognitive architecture (a theory by Ron Sun). I hope you enjoy all of the new features and capabilities that have been added in this release, including:

- **<u>IMPORTANT</u>**: The name of the DLL and Serialization namespace has changed
    - **CLARIONLibrary** to **ClarionLibrary**
    - **Note**: definite implications for simulations using 6.1.0.7
        - Make sure you update the DLL reference in your projects!
- Fully implemented NACS reasoning and retrieval
    - Now interacts with the ACS and MCS modules
    - Added `InputFilterer` and `KnowledgeFilterer` delegates
        - Can be specified in the `ActionCenteredSubsystem` to do custom filtering to & from the NACS
    - Episodic memory and offline ACS/NACS learning currently in development (slated for the next release)
- Core improvements
    - Refactored event timing and truly asynchronous event invocation
    - Threads now only start when needed (improved performance & memory)
    - Improved how `SensoryInformation` is propagated and updated
    - Added/moved several (inner) "tuple" classes to *Clarion.Framework.Core*
    - Added various core "tracking" classes (e.g., a reasoning tracker for the NACS)
    - Added several new interfaces and delegates
- Added new concept `MetaInfoReservations`
    - Replaces things like `TypicalIO` in `Drive`
    - New formatting for accessing this meta information in the `SensoryInformation` object
        - **Note**: possible implications for simulations using 6.1.0.7
- Redesigned `Chunk` class(es)
    - Chunk weight and strength calculation methods relocated
        - Custom delegate options for both methods
    - Added dimension weight specifications
        - Implements bottom-up "weight matrix" concept (from CLARION-H addendum)
        - Allows for "dimension NOT activated" specification
        - Replaces `dvRepDimension` specification in the `New...Chunk` methods in `World`
            - **Note**: possible implications for simulations using 6.1.0.7
    - New `ConditionalChunk` class
        - Replaces inner `Rule.Condition` class
    - New `CustomMetaCognitiveActionChunk` class
        - Initialized using `World`
- Input and Output layers in implicit components (e.g., `BPNetwork`) are now specified by `InputOutputLayer` instead of `ActivationCollection`
- Feature Enhancements
    - Added "switch" (i.e., `PERFORM_LEARNING` parameter) to turn on/off ALL learning in `ActionCenteredSubsystem` and `MetaCognitiveModule`

- - New `LOCAL_EPISODIC_MEMORY_RETENTION_THESHOLD` in `ActionCenteredSubsystem`
    - Now only retains previous 10 episodes in local memory (by default)
    - Allows for better memory management
  - Added time stamps to trace logging
  - Added variability options to perception and actuation response times (credit Emily O'Leary)
    - New parameters/delegates in `Agent` to facilitate this feature
  - Added optional `out` parameter to `GetChosenExternalAction` (and asynchronous method) to return the activations for all actions that were considered during action decision-making (credit Shane Bretz)
  - Various improvements/simplifications in `MetaCognitiveModule`
    - Added `OperationOptions` and `OutcomeActivationOptions`
    - Added `OnTimedEvent` method
  - Changed `Deserialize` methods in `SerializationPlugin` to use the `out` parameter concept (instead of returning the object)
    - Allows for a cleaner serialization code
    - **Note**: possible implications for simulations using 6.1.0.7
- Miscellaneous fixes and additions in various extension classes (i.e., in *Clarion.Framework.Extensions*)
  - Moved `Set/RemoveRelevance` methods from `GoalSelectionEquation` to `GoalSelectionModule`
    - **Note**: possible implications for simulations using 6.1.0.7
  - Added `GoalSelectionModuleParameters`
- Tutorials and documentation have been added to and updated
  - Added Tutorial Table of Contents
    - Gives general ordering to tutorials, plus makes it easier to determine where specific topics are located
  - Still incomplete (slated for the next release)
- New Samples
  - Inductive Reasoning (credit Dan Cannon)
  - Full Reasoner (credit Shane Bretz)
- Many bug fixes!!!

As always, I encourage you to take a moment to peruse all of the documents that we have provided as part of this package; especially the "Getting Started" guide as well as the other tutorials in the "Tutorials" folder. Also, make sure that you read through and agree to all of the licensing terms and conditions before you start using the library.

Note that this is still technically a beta release (although it is getting very close to being an official release). With this in mind, you should be aware that some aspects of the library are incomplete at this point or are still in development.

If you have any questions, want to submit a bug, or make a feature request, please feel free to post on our message boards (at http://www.clarioncognitivearchitecture.com) or email us at clarion.support@gmail.com and we will do our best to respond back to you as quickly as possible.

Thank you again for downloading and trying out the Clarion Library!

Sincerely,

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