

## ANTS2

### Discussion: Action Sequences and Treatments

Our model now contains two similar components termed the Task Executor and the Treatment Executor. Both of these components take a task or error respectively. They select or construct an action sequence or treatment capable of realizing the task or error. The process of selecting or constructing these action sequences and treatments needs to be refined. In order to do this, the following things need to be considered:

Definitions to aid our discussion:

**Task** – a function to be preformed, sent from the high level, passed with arguments, which maps to an action sequence that might involve multiple hardware components.

**Error** – sent from the state monitor, passed with arguments, which maps to a treatment that might involve multiple hardware components.

**Action** – a command sent to hardware

**Action Sequence** – an ordered set of actions that accomplish a task

**Treatment** – an ordered set of actions (action sequence) that attempts to correct an error

#### 1) Errors

How are these represented?

What errors need to be considered?

What are the actions required to produce each treatment?

#### 2) Tasks

What are the actions required to realize each task?

Low Level tasks include:

- MapSky
- ProcessTrajectory
- OpenComms
- SendMessage
- CloseComms
- CalcTrajectory
- SetTrajectory
- GatherData
- DetectNearbySatellites
- ReceiveMessage
- CheckSysStat
- RunSysTests
- InitiateSafeMode

### 3) Action Sequence/Treatment

How are these selected?

### 4) Representation of Actions

What actions need to be accounted for?

What does an action look like?

Possible action unit:

subject = subject of action

targets = targets of action

initial-event = detected event marking the start of action

final-event = detected event marking the end of action

motion = the progress from the initial-event to final-event

change = change observed regarding base and targets

Language used for actions?

Interpretation of action language into hardware commands?