CloudTurbine Source Folder Hierarchy

Matt Miller, 7/17/2020

CT data are organized by “sources”. CT data streams are comprised of standard files in time-stamped folders, organized as a file hierarchy:

```
Source / Time / Data
```

where:

`Source`: Source ID (e.g. “Matt”)
`Time`: Timestamp of data (e.g. 1594918485510)
`Data`: CT streaming data file(s)

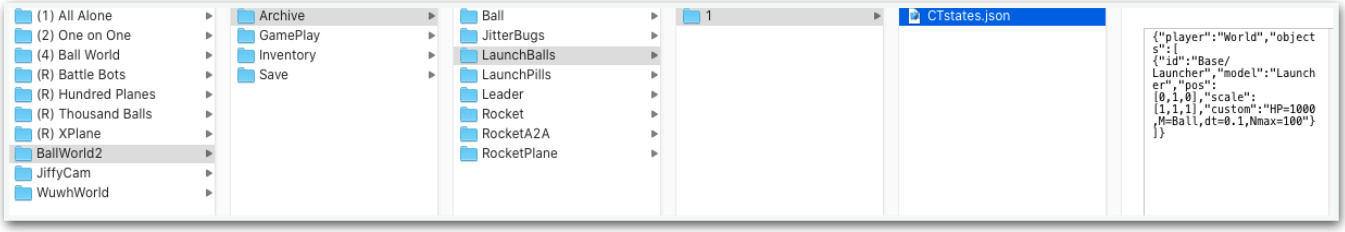
A given application may have multiple sources, for multiple players, for different types of data. An application may have live data streams, static metadata, checkpoints and backups, each as a separate CT source. The organization of CT source folders is up to the application, so long as each CT source abides by the simple Source/Time/Data structure.

For example, the current “CTrollaball” mixed-reality (CT/MR) file structure is organized as follows:

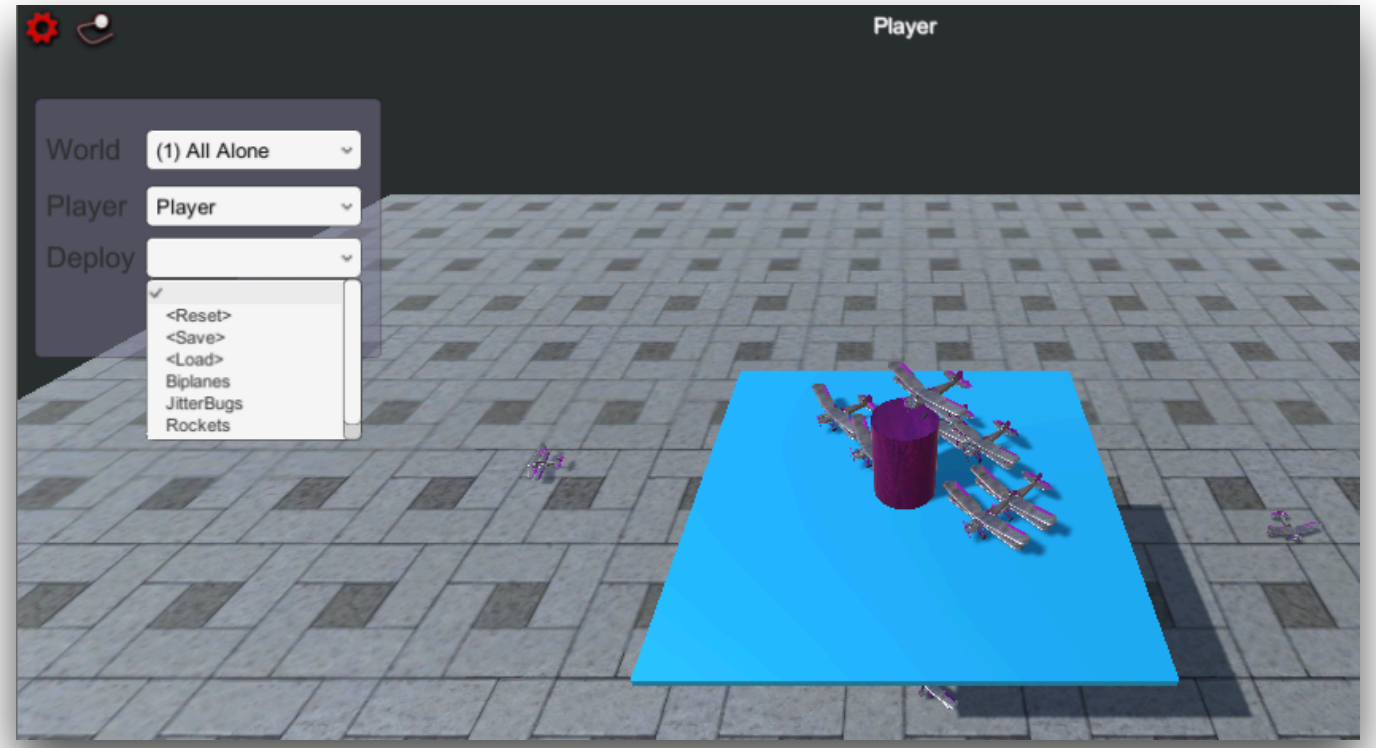
```
CTdata/    <World>/   GamePlay/  <Player>              /123

                      Inventory/ <Player>   /Ball      /1

                      Archive/              /Biplane   /1

                      Save/      <Player>   /Baseline  /1
                                            /Snapshot  /123
```

Folder / CTsource	Description	Notes
CTdata	Top level folder containing CT “world(s)”	Parent folder for “CTweb” app
World	A CT world containing data streams and metadata (e.g. “CTrollaball”)	CT/MR mixed reality demo
GamePlay/Player	Real-time and playback player stream(s) of game-object states	Streaming absolute timestamps (e.g. 1594918485510)
Inventory/Player	Per-player deployable game-objects (e.g. “Ball”)	Static (metadata) with relative timestamps (e.g. /1)
Archive	Global (any-player) deployable game-objects	Static metadata
Save/Player/Baseline	Clear and reset player objects to baseline (initial) state	Read-only metadata
Save/Player/Snapshot	Clear and restore player objects to the most recent snapshot state	Save/Load GamePlay data snapshots

The following figure is a screen capture of a CTrollaball file hierarchy, expanded to show an example “Archive” object, comprised (as with all CTrollaball data) of CTstates.json files describing in-world objects and their states.



The user-interface to CT data is via the associated application, such as the following CTrollaball screen. Here, “World”, “Player”, and “Inventory” (Deploy) selections are via the upper-left popup menu.



When developing a new CT application, it is suggested that one first design the data infrastructure comprised of CT source folders, as discussed herein. Connected application(s) then communicate via this common file-based streaming data structure.