



The Synthesis automation system provides sophisticated architecture for the management of tasks in data and media pipelines

As a **production tool**, Synthesis provides a way to create tasks and track them, whether those tasks consist of multimedia or pure data. As a **programmers framework**, synthesis speeds up the development of new tasks.

The screenshot displays a complex interface with three main components:

- Spreadsheet (Top):** A table with columns for task identification and scheduling. The visible data includes:

Line	FQN	Feeds	Shoot Date	Stage	Status	Pipeline Status	Edit Timecode In	Edit Timecode Out	Scene Notes	Lens Note	Focal Length Note
2	012_ik_OAA_005_0A01_Z1_pc001_v001	['A0', 'B0', 'C0', 'O1', 'S1', 'T1']	06/16/10	CR	PC In Editorial	16:12:40:22	16:12:42:05		SCENE MERCURY VS. JUNO		
3	012_ik_OBA_005_0A01_Z1_pc001_v001	['A0', 'O1', 'T1']	06/18/10	PR	PC In Editorial	11:06:54:13	11:06:56:09		LOCATION SAN CLEMENTE CIRCUS	Z3A1	16MM
4	012_ik_OBB_002_0A01_Z1_pc001_v001	['A0']	06/18/10	PR	PC In Editorial	11:13:49:10	11:13:50:00		LOCATION SAN CLEMENTE CIRCUS	Z3A1	22MM
- Video Preview (Middle):** A window titled '744_CT0100' showing a dark scene with a camera viewfinder overlay. Metadata displayed includes:
 - Dir: Steve Synthesis
 - Artist: synthesis
 - VFX #: 744_CT0100
 - FQName: 043_ik_00E_004_0A01_Z1_pc001_v003
 - Destination: To Editorial
 - Comments: Launched by 744_SEQ_TO_GIANT_062510_v02.EDL in hotfolder
- Terminal (Bottom Right):** A window showing a 'turnover' list of files and metadata, including:


```
turnover_[EDL_TITLE]_[TIMESTAMP]
|----- README.txt
|----- turnover_[EDL_TITLE]_[TIMESTAMP].csv
|----- original_EDL_file.edl
|----- original_EDL_file_w_problems.edl
|----- job_failure_[EDL_INDEX]
|----- [VFX_NUM]
|----- README.txt
|----- 043_ik_00E_004_0A01_Z1_pc001_v002_CE.mov
|----- 043_ik_00E_004_0A01_Z1_pc001_v002_CE_270p.mov
|----- 043_ik_00E_004_0A01_Z1_pc001_v002_CE.ale
|----- 744_SEQ_TO_GIANT_062510_v02.EDL
|----- turnover-744CT01100.csv
|----- datasets
|----- overdrive
|----- 006230A1.09-14-09-01.ctlsys
|----- 006230A1.09-14-09-01.show
|----- synthesis
|----- 043_ik_00E_004_0A01_01.nsb
|----- 043_ik_00E_004_0A01_Z1_pc001_v001.CamA.nsb
|----- nsb.htm
|----- 043_ik_00E_004_0A01_Z1_pc001_v002.3dl
|----- utils
|----- overdriveLib_20100628.zip
|----- nsb_gui.zip
```

A multimedia “turnover” of media and meta-data from a motion picture capture session

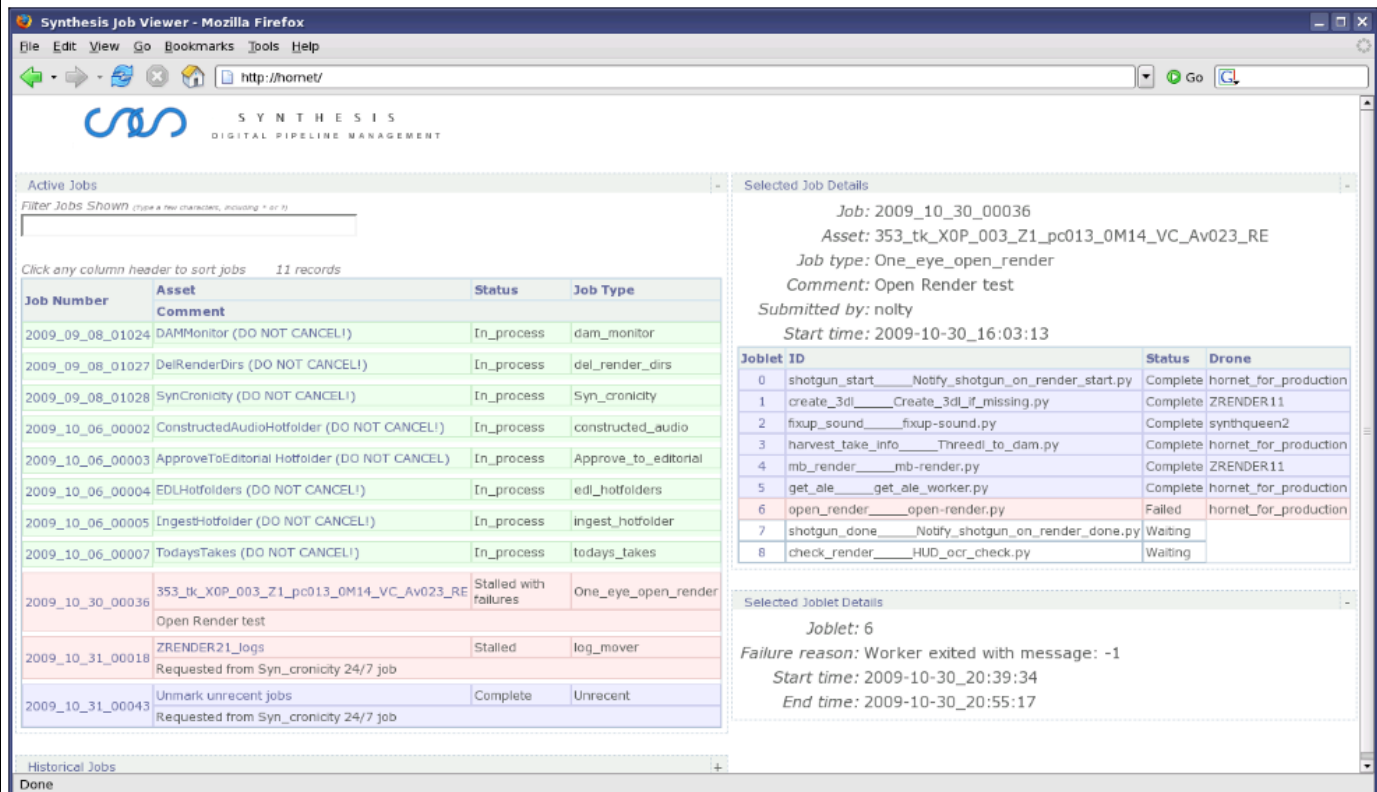
Why Synthesis ?

In some work environments personnel to do redundant tasks manually, where the automation of those tasks could save man-years of labor costs annually. Tracking those tasks is of great value too.

Other work environments have home-grown approaches to automation. Without careful thought, a data or media pipeline can turn into a hodgepodge of programs and databases, using different languages, frameworks and approaches to problem-solving. As a result, there is limited usability, visibility, extendability, and maintainability.

Synthesis came about to solve these problems. It is a framework for automation tasks, and features central control, status monitoring and history. For programmers, it simplifies and unifies the writing of programs to carry out pipeline tasks.

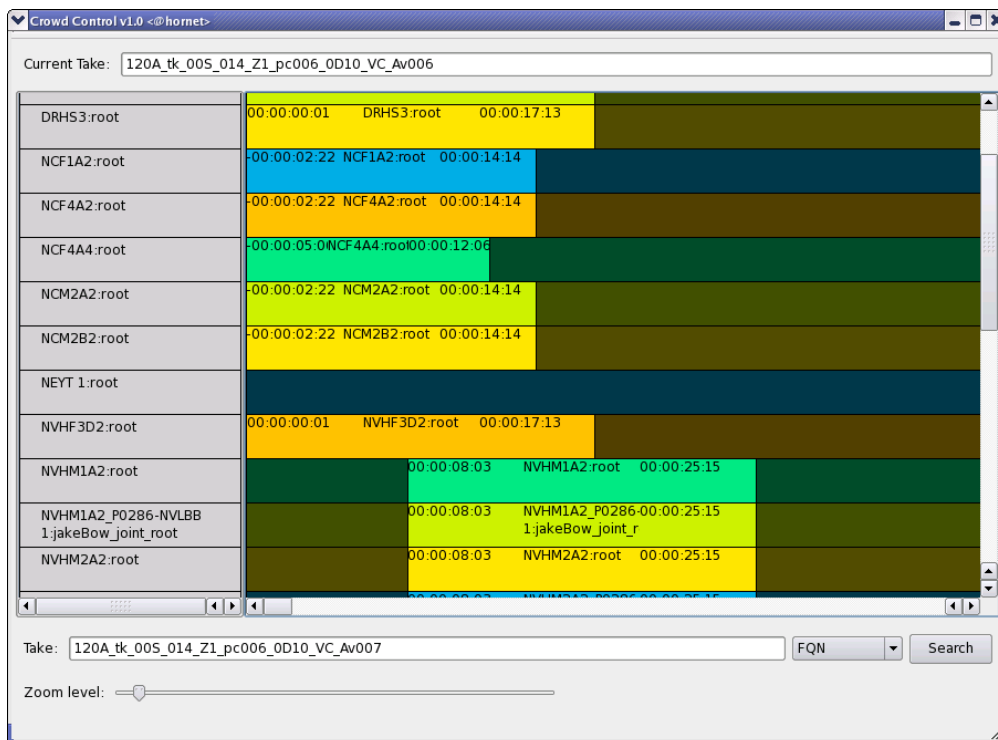
Specifically, Synthesis is a set of programs and programming libraries for sequencing work and parceling work out among different computers. At its core, it is not specific to media pipelines, though it was designed in that context. In pipelines, it is used to automate tasks and keep users informed about the progress of tasks.



The web-based "Job-viewer", showing scheduled tasks and their sub-parts

Synthesis provides:

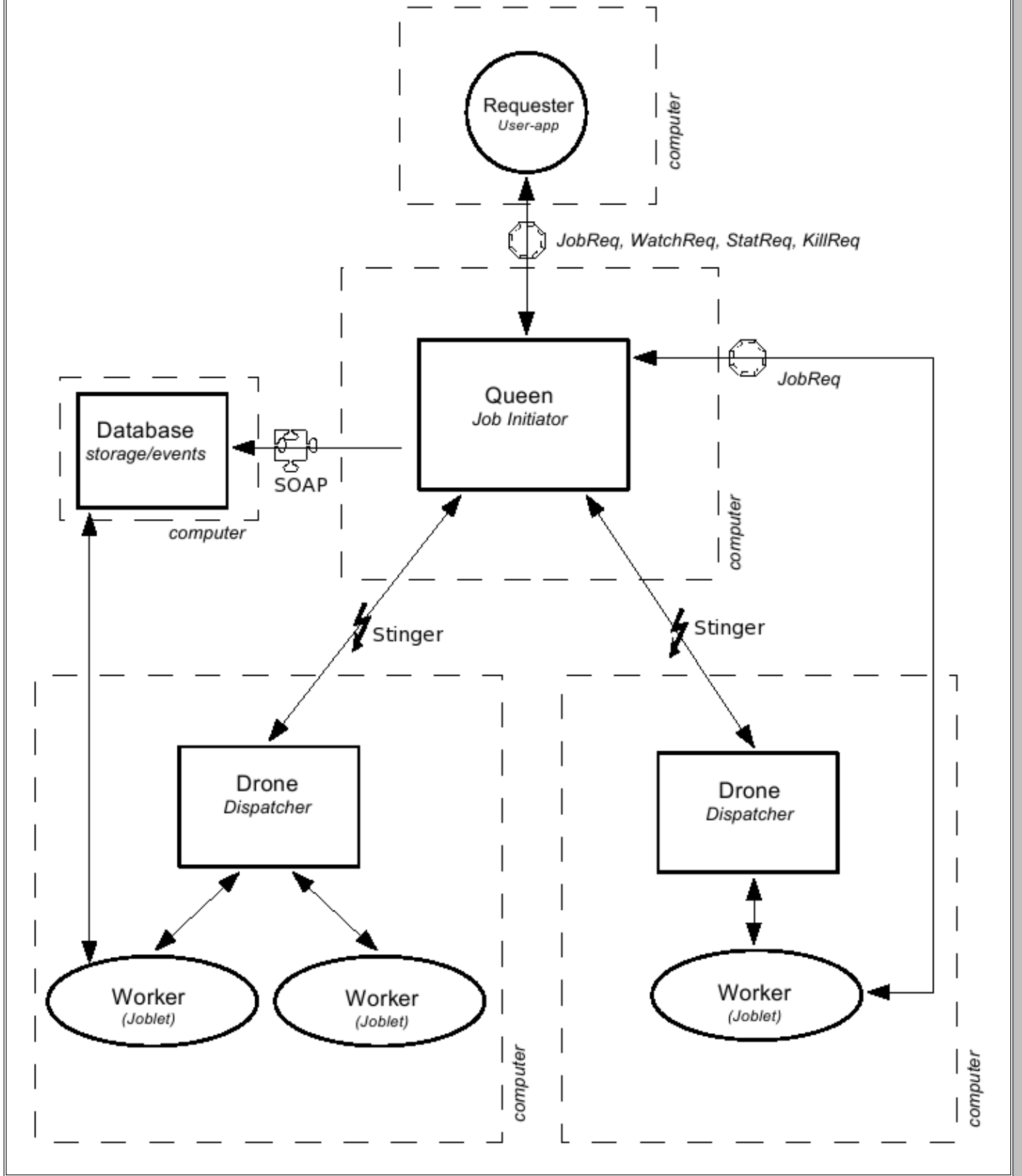
- **Task scheduling and prioritization Server**
- **Database interfaces (mySQL/postgresql/Django/SOAP)**
- **Task monitoring with Web User interface**
- **Error logging and review facilities**
- **Multimedia Libraries**
- **Versioning for data & asset files**
- **XML, CSV, time-code, and other data libraries**
- **Cross-platform OS support**
- **Straightforward programming API for Python & C++**
- **Dynamic job creation mechanisms**
- **Tasks for Maya, MotionBuilder, Aftereffects, & others**

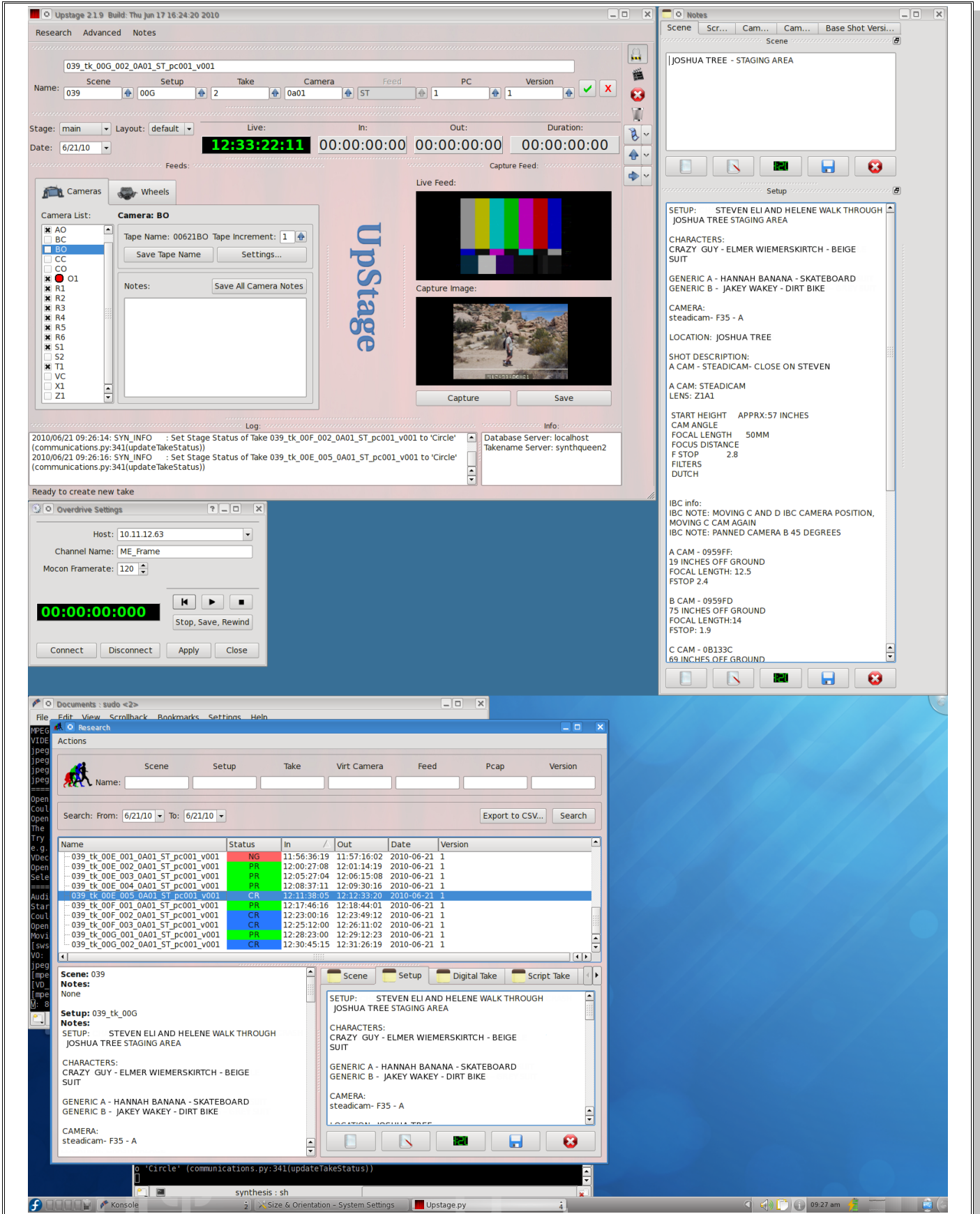


Graphical tool for tracking video clips on a timeline

Synthesis

Pipeline Management





"Upstage" take management and database reporting tool for motion pictures

Applications:

Synthesis can be used in any environment where there is data manipulation and automation to be done. media, accounting, databasing, medical, manufacturing, etc. Synthesis has been used in the production of major motion pictures such as “Avatar” and “Real Steel”, and is also used in the production of Video Gaming content.

Concept Overdrive originally developed the Synthesis system for “Avatar”, which was the editorial pipeline of the main camera stage. The harvesting of metadata from this mocap stage was largely automated by Synthesis, which assembled assets from multiple departments after each take. The system gathered the data, modified it and rendered it into computer-game resolution video files which were "digital dailies" for the editorial department. A flexible task-sequencing architecture was designed which utilized networked resources to automate the render process. Nearly every CG shot in the film passed through Synthesis; the renders were the final editorial cut of the film before the high-resolution rendering.

Contact us for a custom quotation which suits your pipeline needs.