CMLab Graphics

VFX Assignment #3: MatchMove

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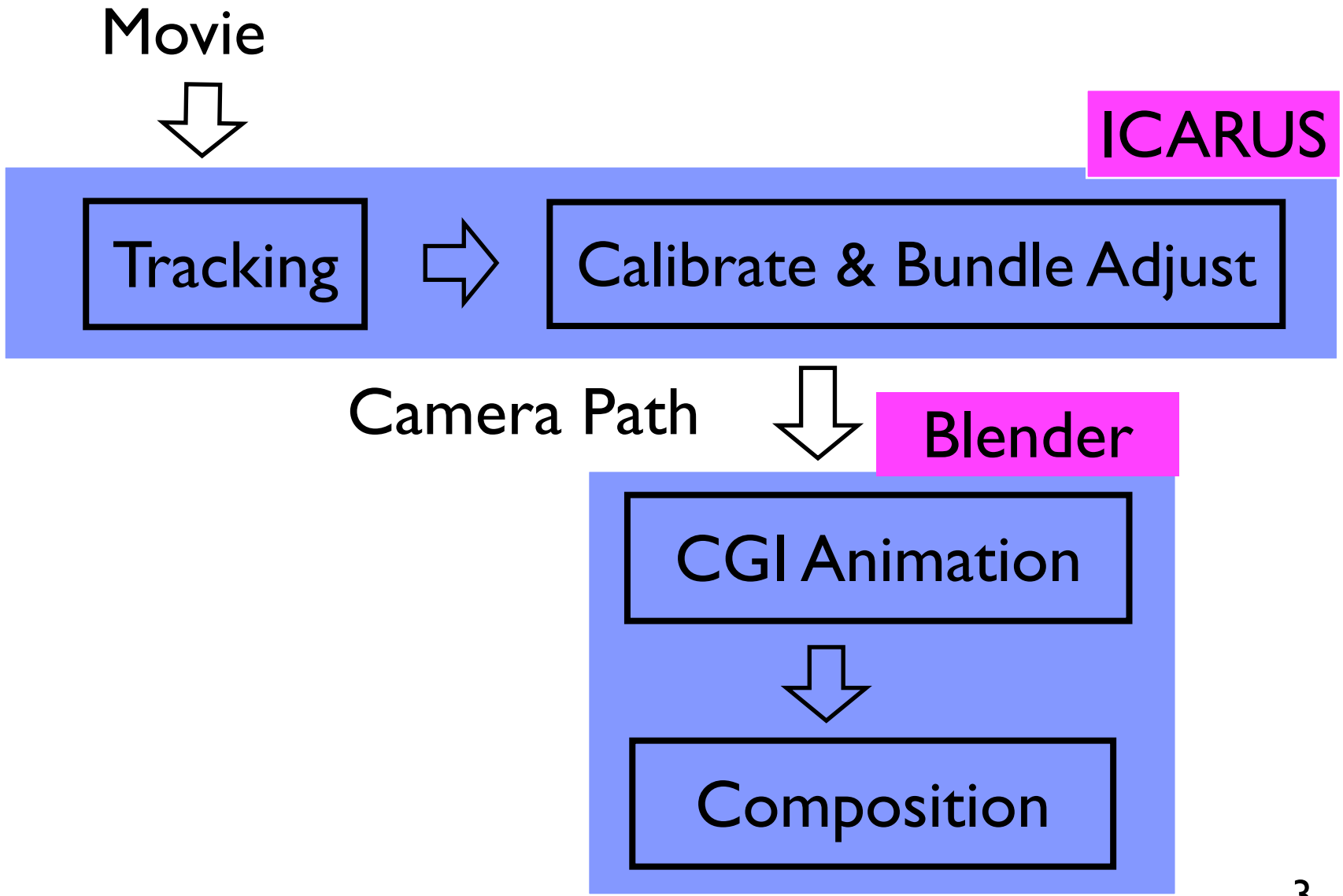
Goal

Workflow


Movie
ICARUS
Tracking
Calibrate & Bundle Adjust
Camera Path
Blender
CGI Animation
Composition

VirtualDub

- You should capture the video from DV.
- ~~We set up a PC (Windows) with IEEE 1394a in R219.~~
- In VirtualDub,
  - File > Capture AVI
  - Device > [Choose the correct device]
  - Capture > Capture Video

ICARUS

- ICARUS v2.09 can be downloaded from the course website.

Import Movie

- Project > New
- Project > Import Movie
  - Select a video file or image sequences
  - ICARUS v2.07 only supports image sequences.
- Set Camera Parameters
  - Free Motion ?

Tracking

- [Optional] Tracking > Tracking Parameters
  - You can reduce the number of features to save time.
- Tracking > Auto Track
- [Optional] Remove some bad tracks (features).

Calibrate & Bundle Adjust

- [Optional] Click: Coordinate Frame > X, Y, Z Axis
  - Draw lines in a frame to deduce
    - Focal length
    - Ground plane
- Camera > Calibrate
- [Optional] Camera > Bundle Adjust

Export 3D Motion

- [Optional] Click: Coordinate Frame > Origin Point
  - Left click to add Origin Point
  - Camera > Orient Scene
- [Optional] Click: Coordinate Frame
  - Drag: change coordinate orientation
- Project > Export 3D Motion
  - Choose Human Readable (*.txt)

Import Camera Path

- Run Blender 

- Use Text Editor :
  - File > Open
    - Select: ICARUS_import241.py
  - File > Run Python Scripts
    - Select: the file exported by ICARUS.
    - Create Curves

CGI Animation

- Issues:
  - Model
    - Mesh, Texture, Particle ...
  - Animation
    - Solid Object ? Skeleton ?
  - Rendering
    - Illumination ?

CGI Animation

CGI Animation

Video Composition

- Use Video Sequence Editor :
  - Add > Movie
  - Add > Scene
  - Use Shift to select both Scene and Movie sequences:
    - Add > Effect > Alpha Under

References

- ICARUS User Manual
  - With the software
- Blender Manual (Wiki)
  - http://wiki.blender.org/index.php/Manual/Manual