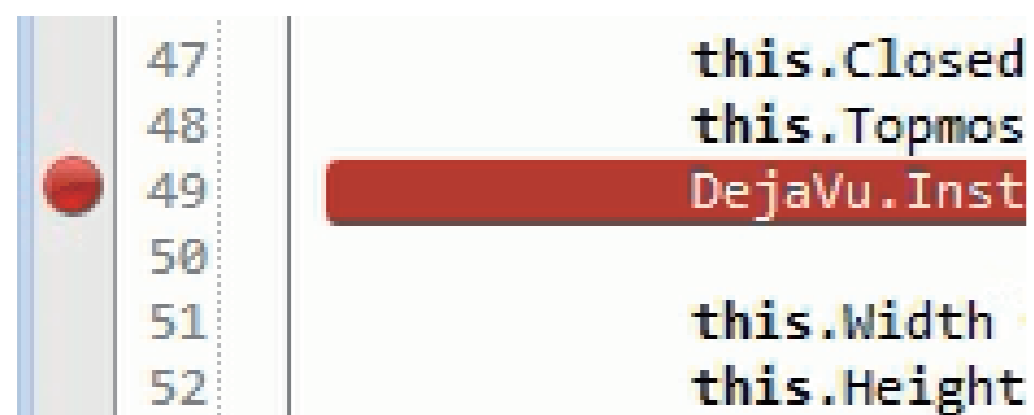


DejaVu: Integrated Support for Developing Interactive Camera-based Programs

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BACKGROUND

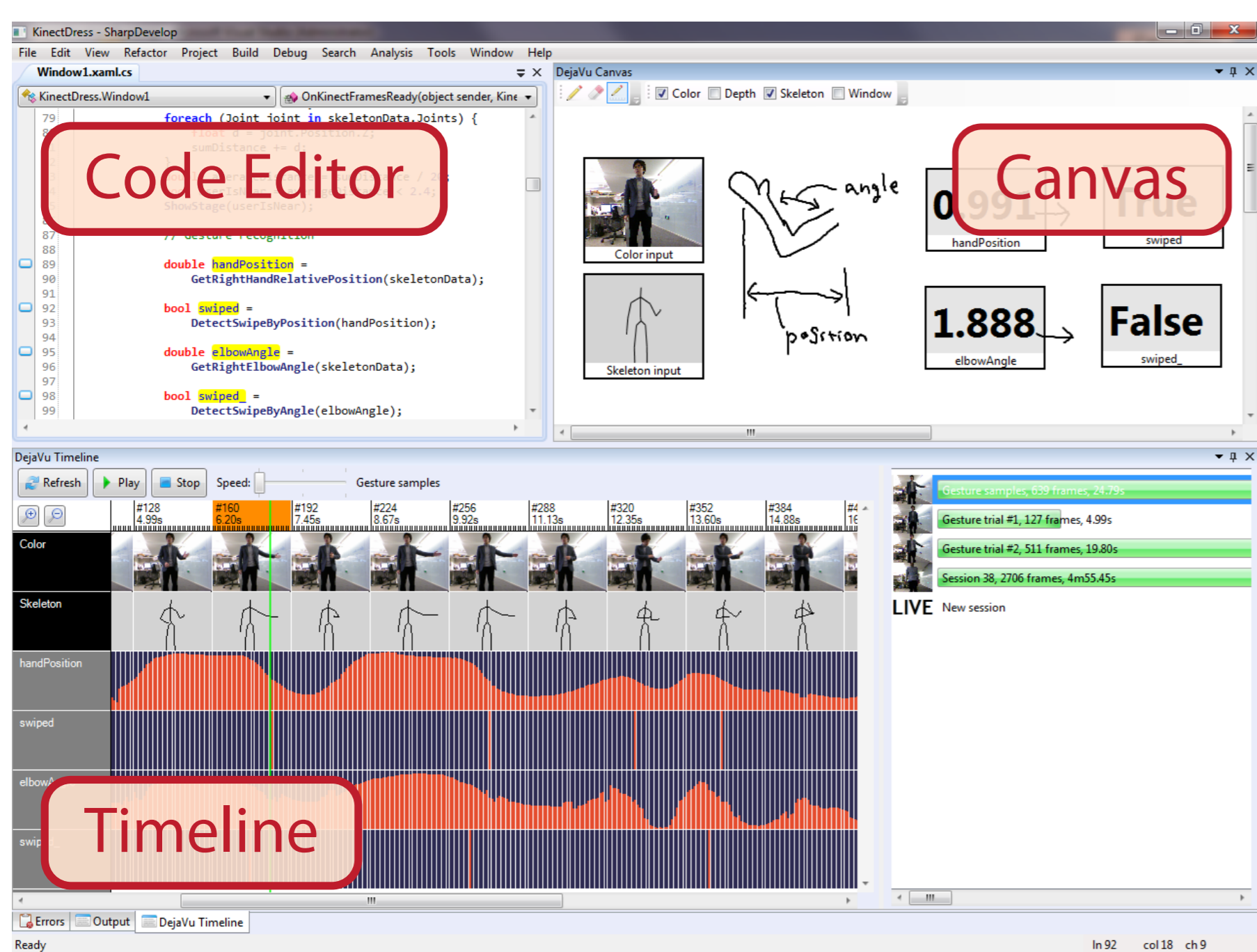


Camera-based programs are getting popular with affordable hardware and useful software libraries.

Current IDEs do not provide sufficient support and programmers have to test/debug programs by...

- Breakpoint, Console.Write()
- Custom visualization code

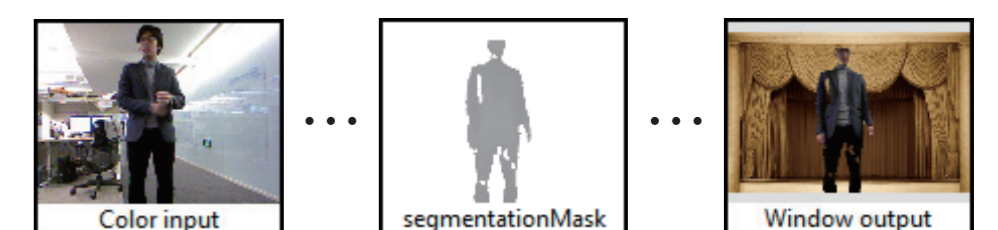
DEJAVU



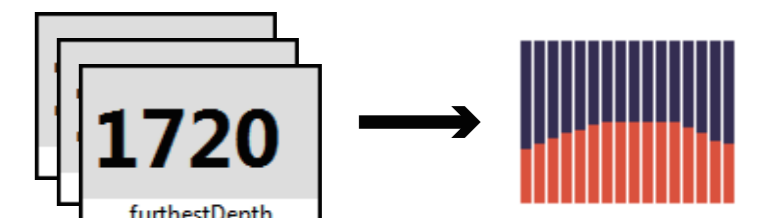
We made an enhancement to an IDE for interactive camera-based programs.

Distinctive Challenges

A) Various visual data:



B) Continuous processing:



C) Non-reproducible input:

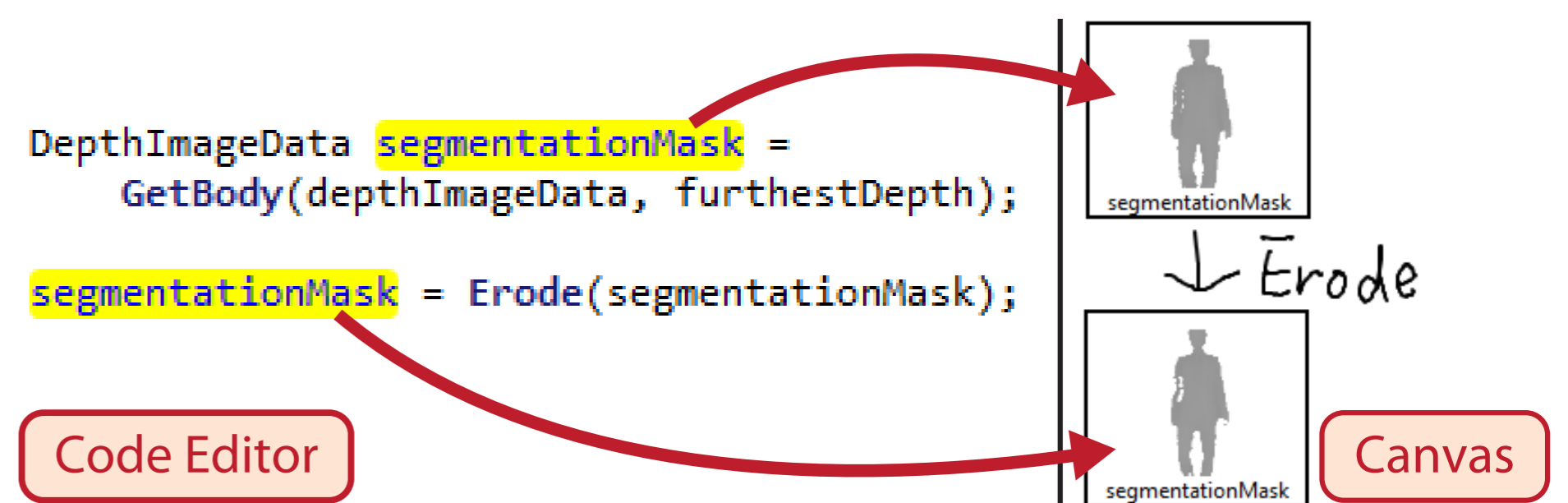


CANVAS

Interface to sketch and visualize "now"

Solution to A,B

- Sketch anything to memorize what the program is doing.
- Drag and drop variables from the code editor to visualize them.

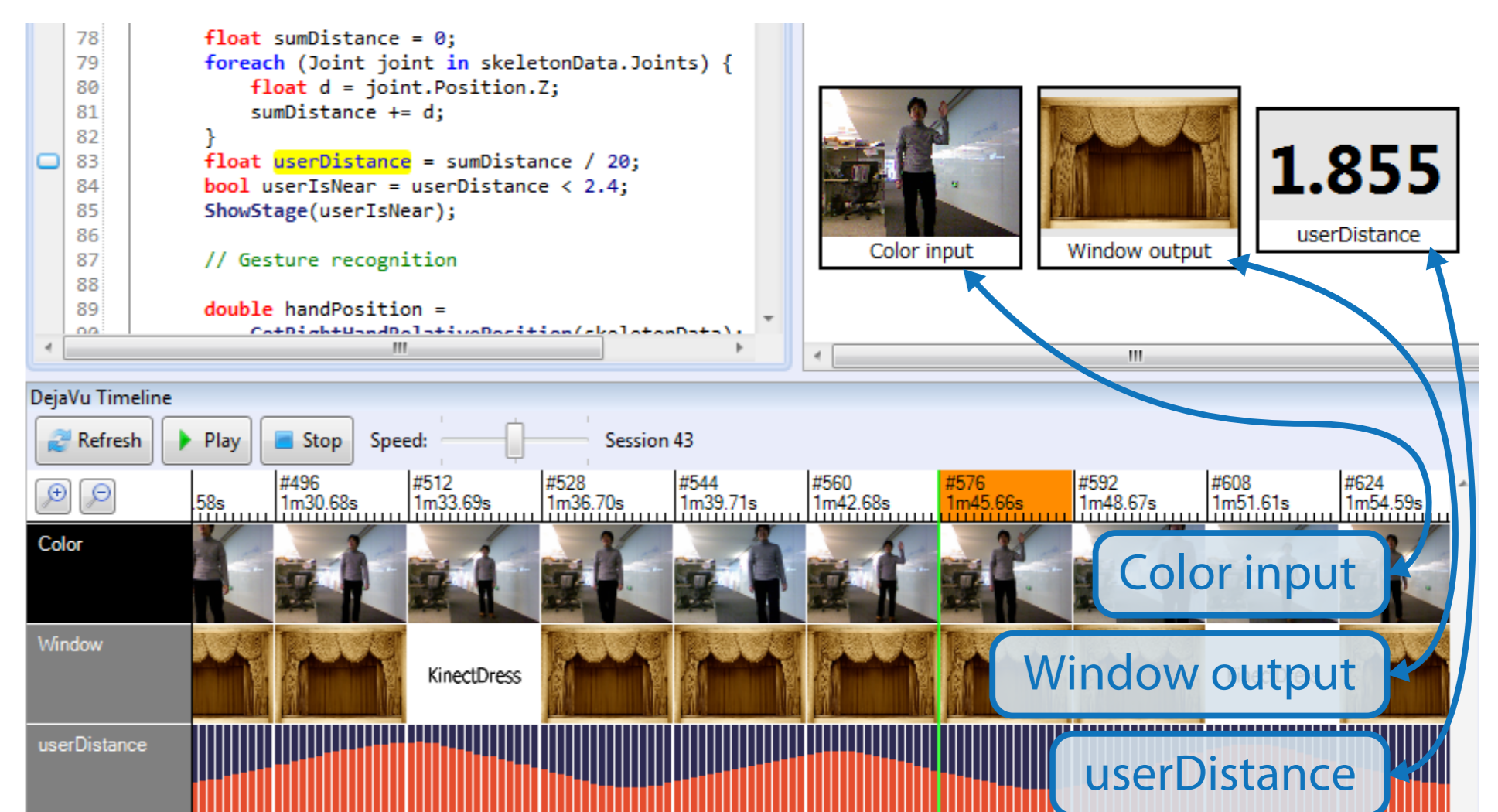


TIMELINE

Interface to look into and replay "the history"

Solution to B,C

- See the history of data which has been shown in the canvas. (inputs, outputs, intermediate results)
- Play a new session, replay or refresh a recorded session.



IMPLEMENTATION

SharpDevelop (OSS IDE) + extension

- 1) Thin wrapper of Kinect SDK
- 2) Code rewrite before/after compilation



2) Original: double a = func();
Rewritten: double a = (Double)(IDE.track(func(),17));