

AUTOMATED CINEMATOGRAPHY

for Live Media Communication

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The Idea

Mathematics + Art = ?

The Beginning.

- Make Visual Communication Interesting and Free from the Confines of Static Subjects.

The Plan

So... How Are We Supposed To Do This?

Project Goals

- Apply a Few Simple Cinematographic Principles to a Static Camera. e.g.: Webcams.
 - Rule of Thirds
 - Close Ups – Frame Size
- Avoid Nausea. Example.
 - Edits v. Follow Shots
- Different Rules For Different Conditions
 - How Many Faces?
- Real Time?
- Prove It Can Be Done
 - The Important One

Software Research

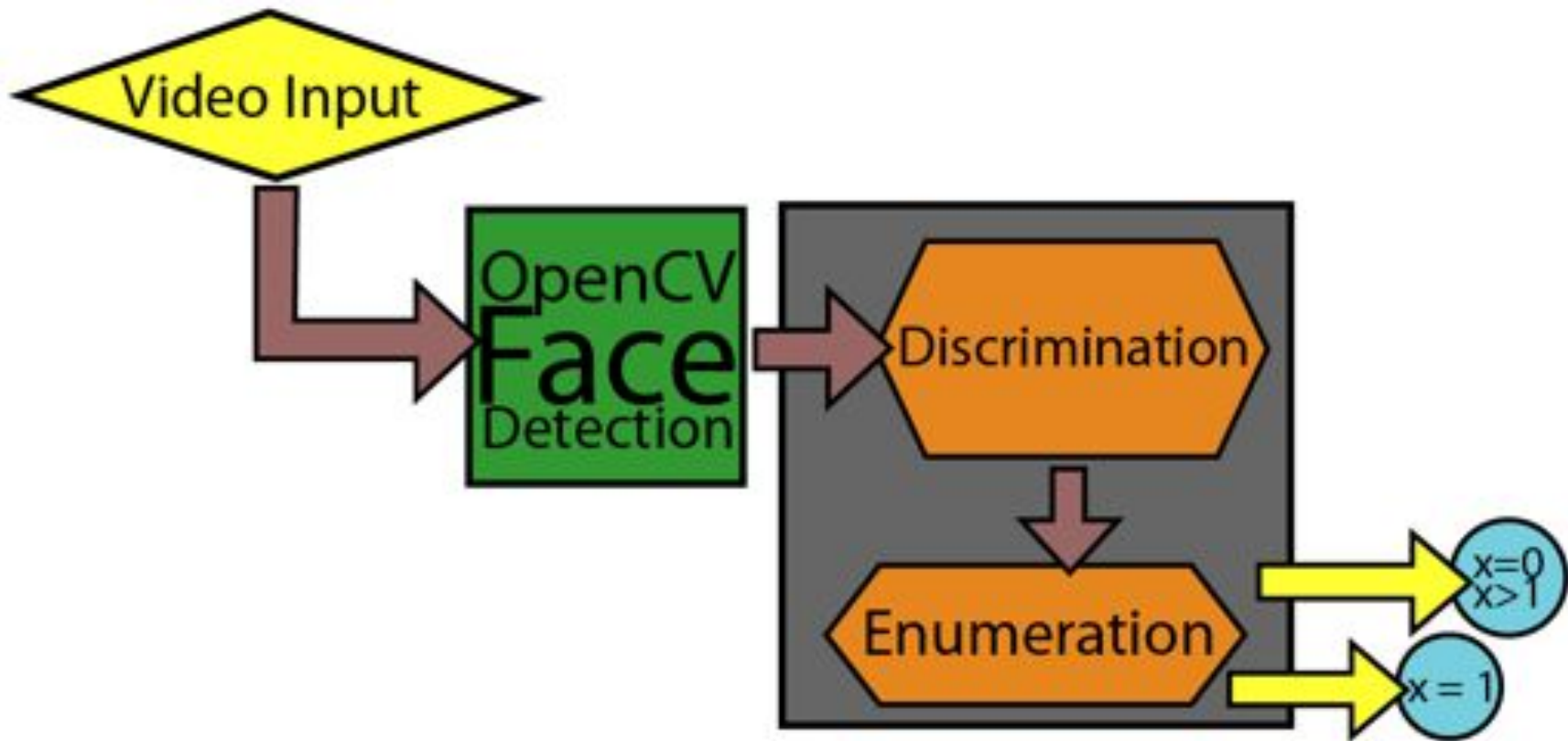
- Face Detection and Cropping
- Free to Use
- Well Known Language



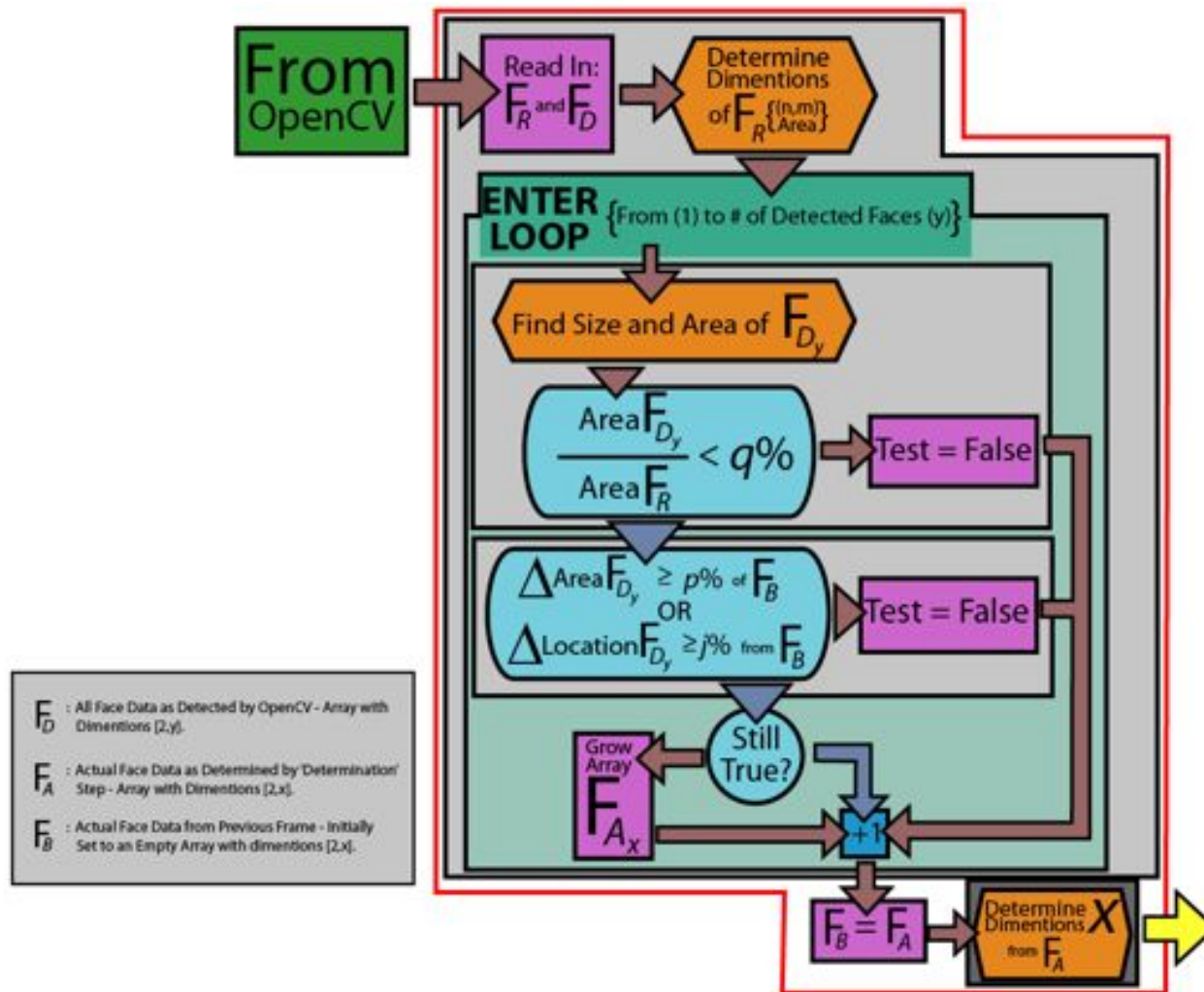
Primary Design

Arrows and Boxes!

Read In and Detection



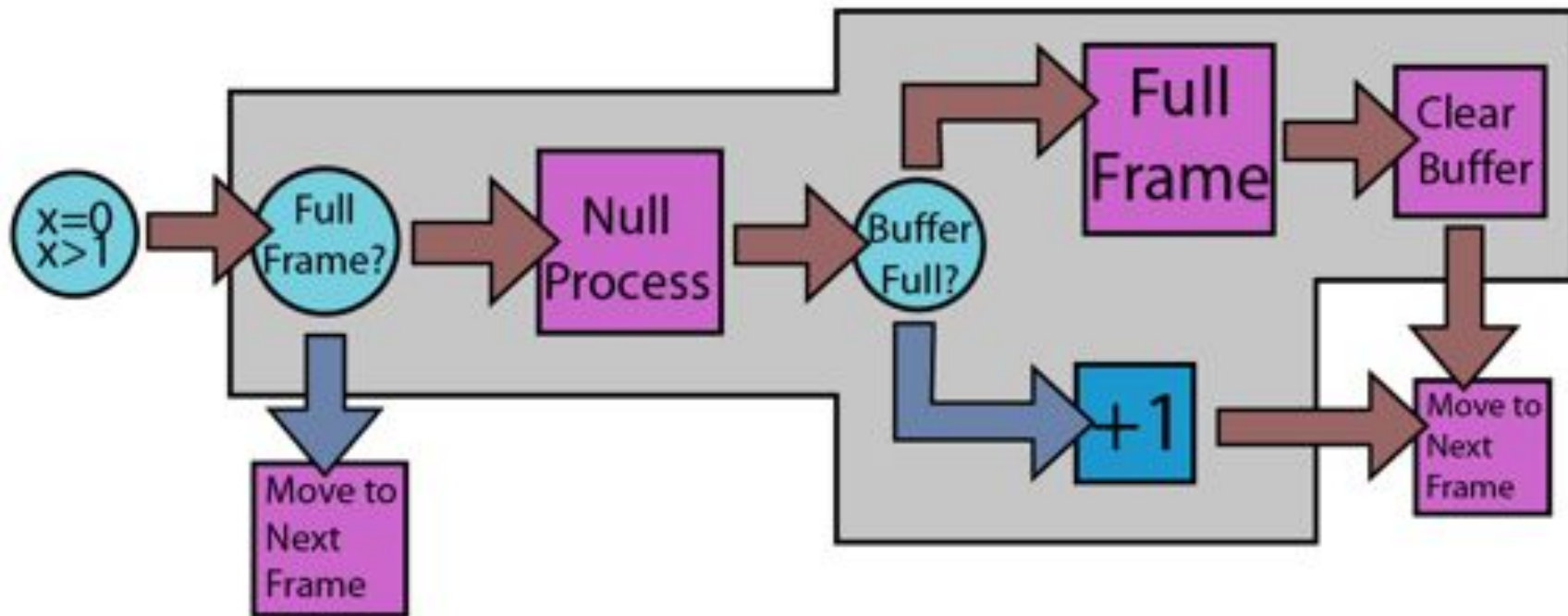
A Little More Detail



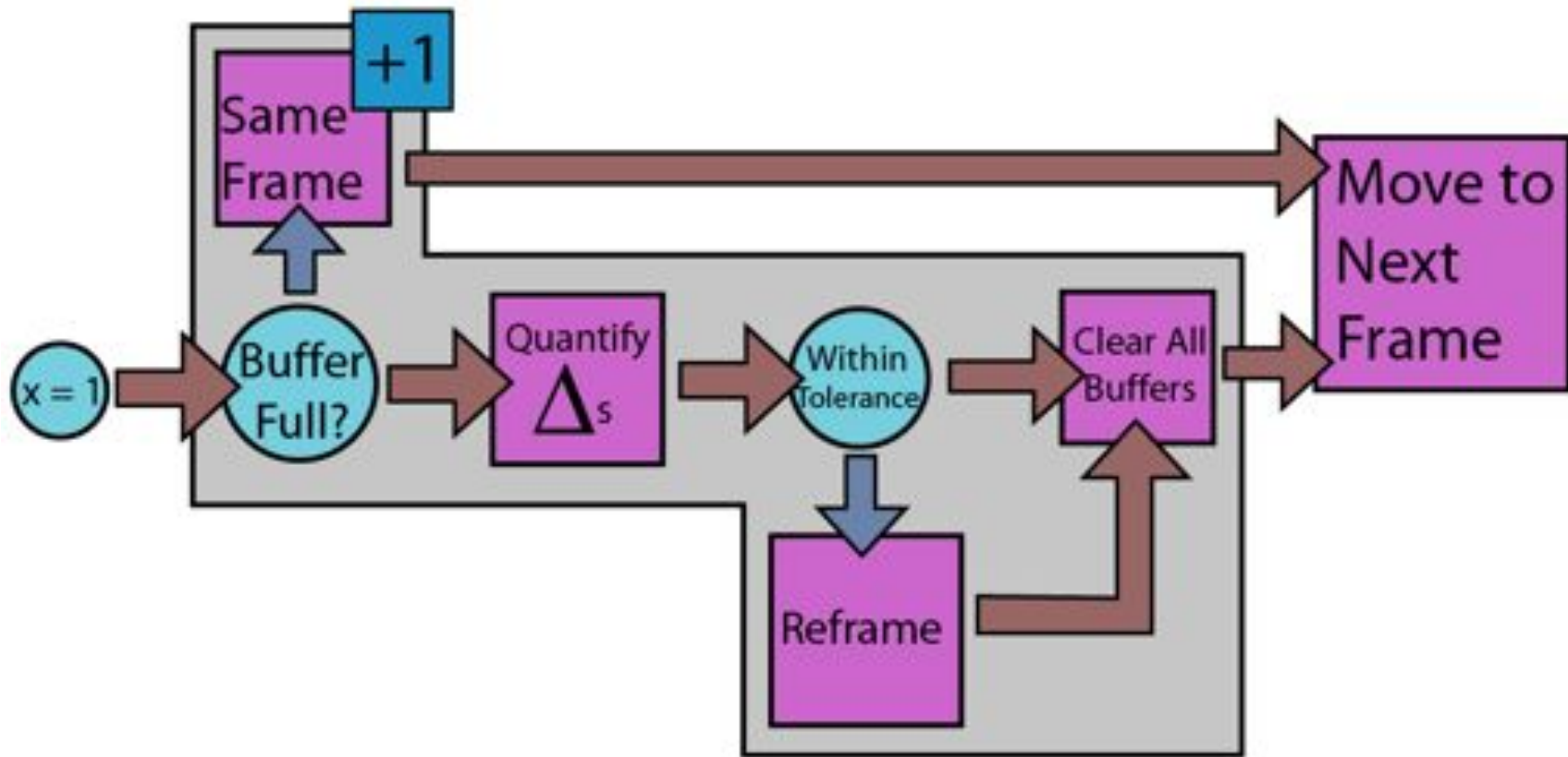
Three Important Cases

- No Faces In Frame
- Too Many Faces In Frame
- One Face In Frame
- Two Faces In Frame
 - Moved to Future Work

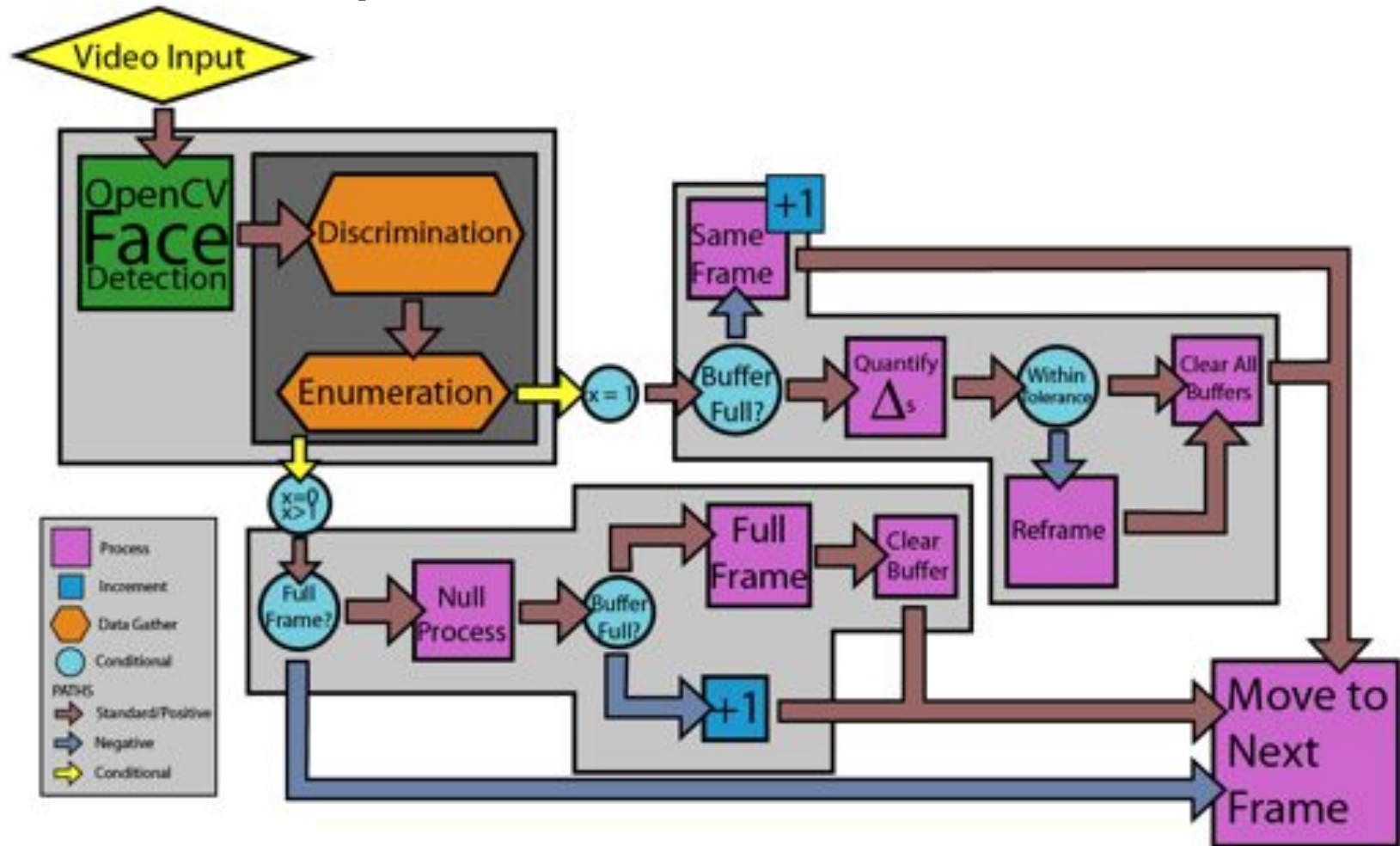
Nobody's Home / Full House



One is the Loneliest Number



Full Scope



The Result

More Boxes... But Different.

A Few Examples

Future Progress and Applications

This is For the Underclassmen In the Crowd. 😊

Possible Additions

- 2,3,4... x Faces In Frame
- More Powerful Detection and Discrimination
- Real Time
- More Principles of Cinematography
 - Cinematographer Profiles

More Additions

- Facial Recognition
- Multiple Camera Support
- ‘Interest’ Based Decisions
 - Not Just Faces
- Audio Integration

Possible Applications

- Designed for Visual Media Communication
 - Reality TV
 - Security Systems
 - More?

The Important People

Without Whom We Still Wouldn't Know What We're Doing.

Thanks To:

- Project Advisors
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