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# Omnioculars



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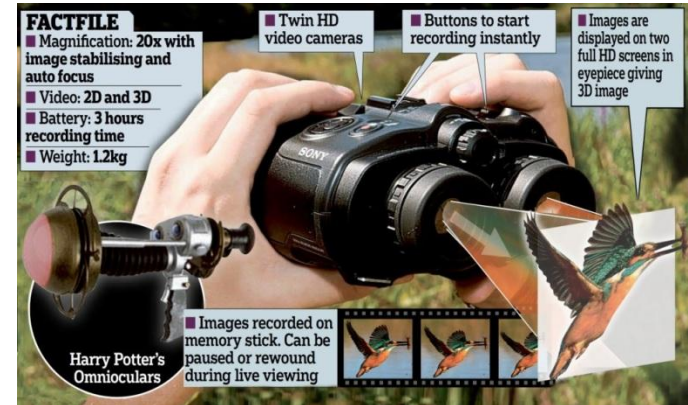
# Quidditch Time!

- 'Ron pulled out his Omnioculars ... "I can make that old bloke pick his nose again and again and again"'
- Omnioculars were used in Harry Potter and the Goblet of Fire in the Quidditch World Cup Final
- Can be extensively used in the Muggle world:
  - Sports
  - Ceremonies
  - Concerts
  - Bird watching
  - Spying



# Durmstrang does exist...

- Unfortunately, there is some sort of competition here too
- Sony's Video Binoculars:
  - Too expensive (\$1,400)
  - No slow motion capability
  - Geared towards real-time recording



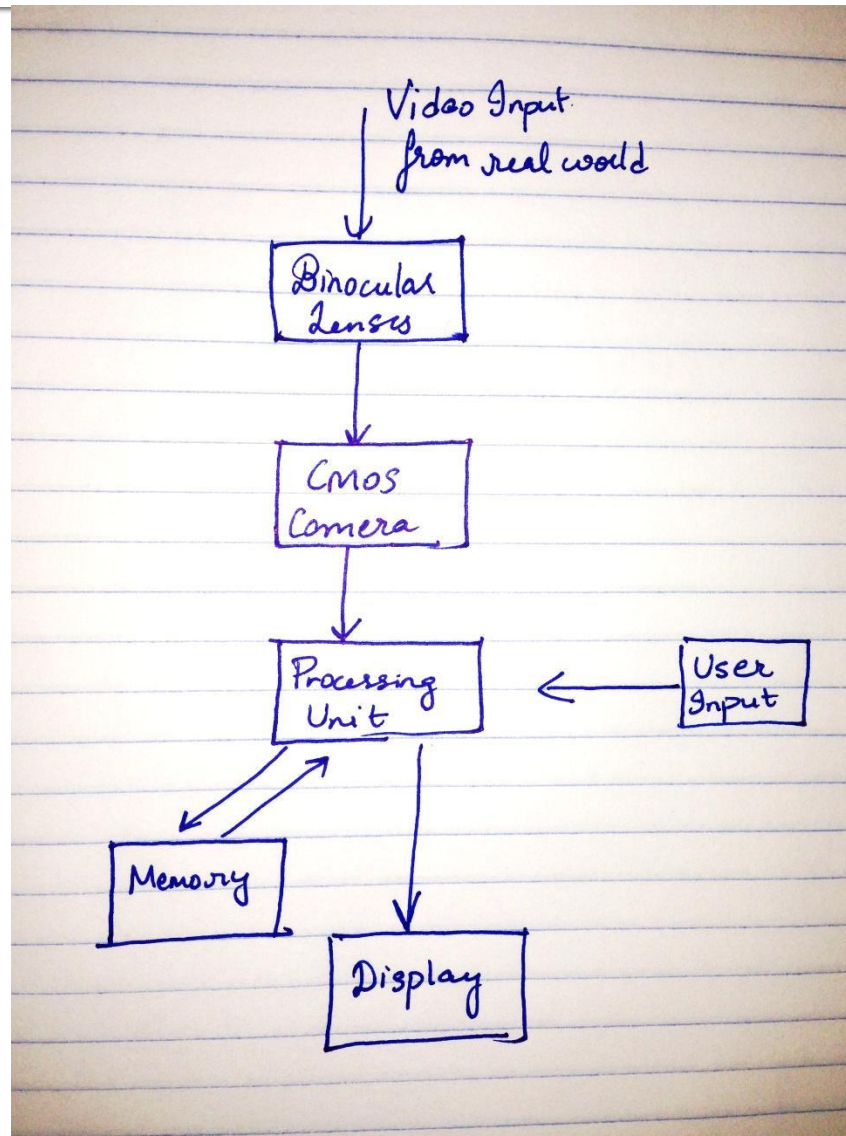
# Requirements

- Three phases:
  - Attaching a camera to the binoculars to digitize incoming video
  - Saving the incoming video to a memory card and applying video effects (slow motion, replay)
  - Outputting the rendered video with minimal lag
- Some knowledge of video processing on an embedded device required
- Final device needs to be compact and mobile for best utility

# Things to get from Flourish and Blotts

- Binoculars
- CMOS Camera
- Memory (possibly SD)
- Arduino/Raspberry Pi
- Display

# Architecture



# Risks

- Time Lag
  - Have to ensure that video processing step doesn't take too long
- Video processing on embedded systems may be complicated and slow
- Camera quality