



## Retro Upscaler Box (Team 11)

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### Description & Purpose

#### - Description

- R.U.B. is a hardware video scaler implemented in an FPGA, which formats low resolution video to work with modern displays using Nearest-Neighbor Scaling to maintain sharp edges.

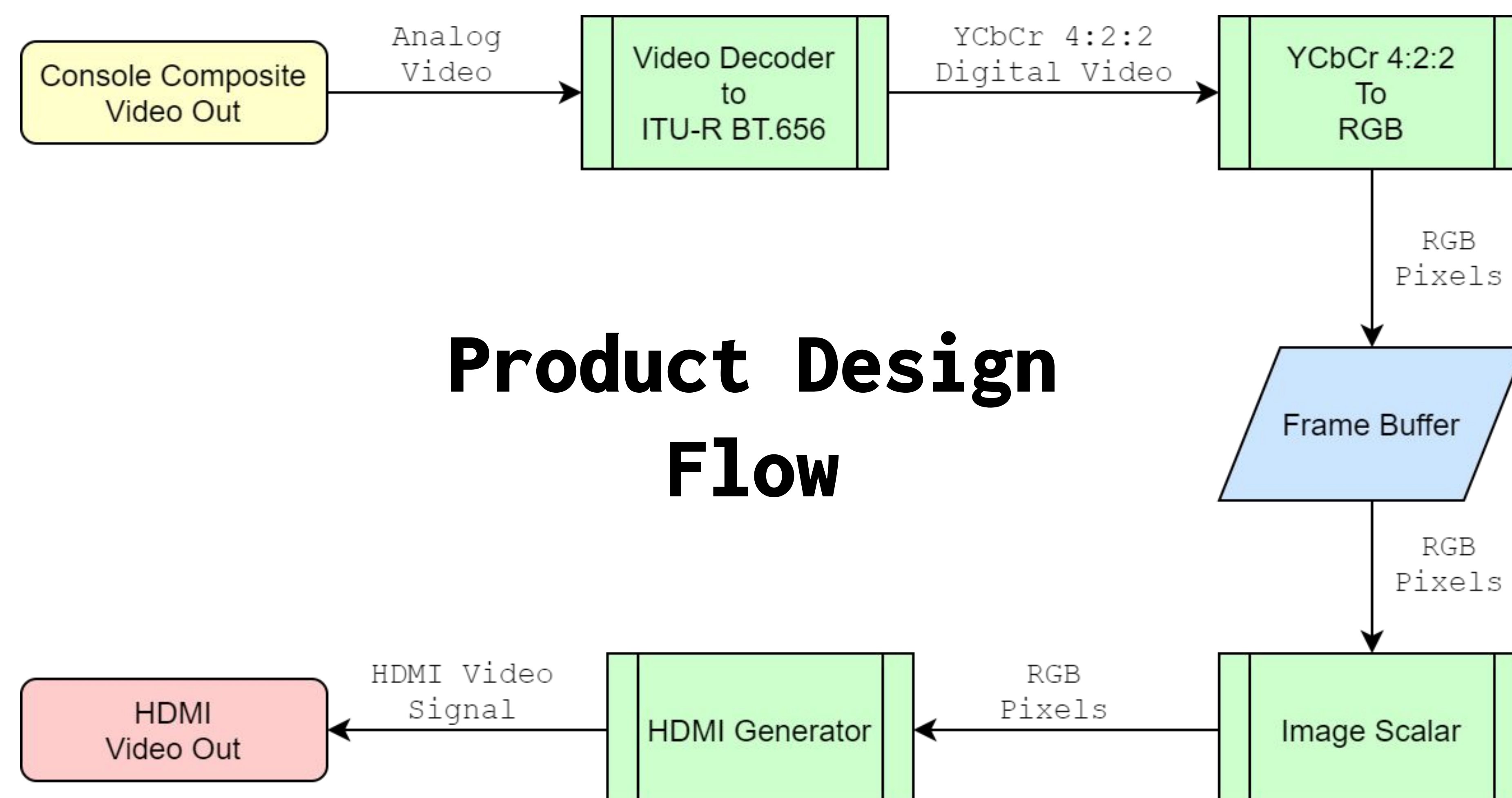
#### - Purpose

- We want to make playing games on retro game consoles look and feel like the good old days with crisp detail.
- We want to provide clear video for larger resolutions with minimal delay. Thus allowing users to enjoy their retro video games with modern, high resolution, large-format displays.

Binlinear (TV)  
Scaling



Nearest-Neighbor  
Scaling



### Ethical & Intellectual Property Issues

#### - Licensing

- Our project utilizes IP code from Xilinx and scaling algorithms that already exist. As such, we need to make sure to abide by any regulations imposed by their licenses.

#### - Novelty

- There are pre existing products that solve a similar problem as ours, therefore it might appear that our product has copied design features. When designing out final version, we must take care not to blindly copy another idea, but instead add and improve upon the concept.