Hybrid Display System

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Project Idea

- Combine the strengths of static and dynamic displays for cases where most information is static
- Example case: in-car map display
 - the map is static
 - current and goal locations might be dynamic

Solution

- printed static part
- projected dynamic part

What we are solving

 Align projected with static image

 Use a camera to detect corners of paper



Requirements

Video Input composite NTSC now VGA sensor later Position/orientation detection

- black & white image, edge following algorithm now
- smarter/more robust stuff later.
- Display method
 - VGA output with overlay for now
 - Iaser pointer later

Implementation

Modular design



Implementation

- For development/evaluation we need video output
- Frame buffer allows different image timings, interlaced input, etc
- Paged memory access
- Synchronize memory access using global state counter synchronized to input signal

Future Enhancements

More complex corner/edge detection

Recognition of unique corner identifier

Laser marker

Position feedback on laser marker