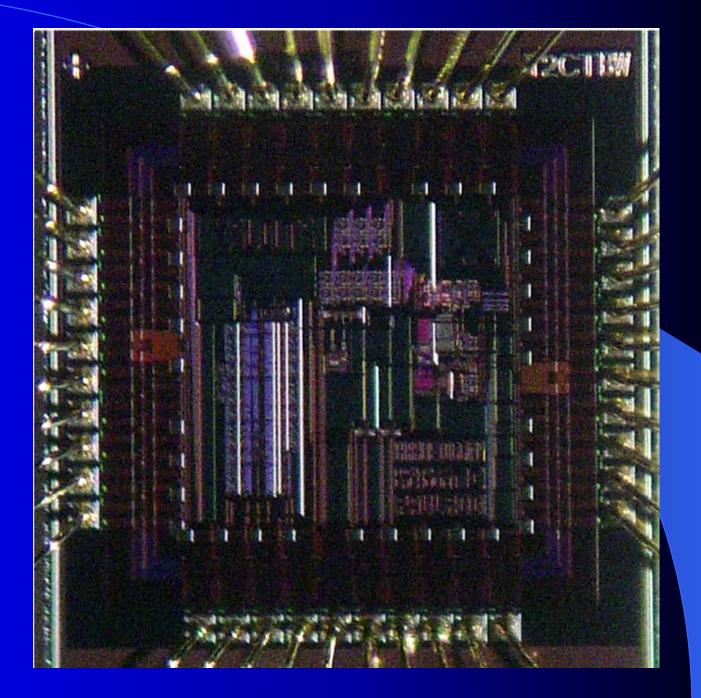
XSLOTS Slot Machine Controller

ELEC 423 April 23, 2003 Michael Calhoun Charles Coggins Paul Rodriguez

Description of Project

- Slot-Machine controller ASIC
- System Flow
 - User Inputs Credits (10)
 - Reels Spin (Lights Flash)
 - Reels Stop, Result is Assessed
 - Winnings are paid
 - Jackpot is incremented or reset appropriately

Full Plot of Chip

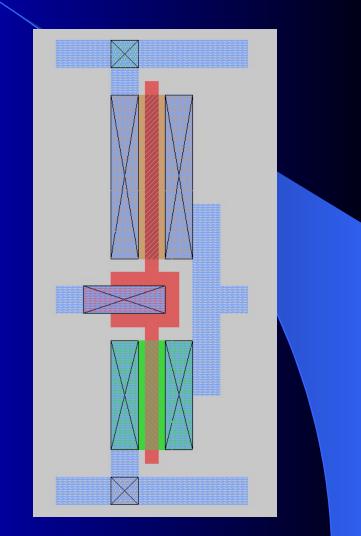


Functional Testing

- Success! All chips work
- 6 Test Vectors on Omnilab
- Agreement with previous results
- Able to run at max. Omnilab frequency
- Control
- RNG
- Jackpot and Payout PLA

Speed Testing

Designed for Speed Standard Inverter $-L 20\lambda, W 2\lambda (N)$ - L 32 λ , W 2 λ (P) • 0.1 ns rise/fall Fall Semester Speed Estimate: 40-60 MHz



Tektronix Output

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wrow2																	
wrow3																	
trig																	

Speed Testing (Continued)

- Omnilab tested at max speed successfully
- Tektronix Testing:
 - 8ns per event (32ns per clock period)
 - 31.25 MHz
 - Full Functionality of Outputs
- Removal of non-overlap periods

Demonstration

<u>21 LEDs, 3 Octal Buffers, 4 Switches</u> • 2 Phase Clocking – 481 Hz Astable Multivibrator - No Non-Overlap Period Slow Clock for LED flasher - Astable Multivibrator – Variable Speed (1-10Hz usable range)

Conclusion

Functional Test...Success
Speed Test...Success
Visual Output...Success

• Questions?