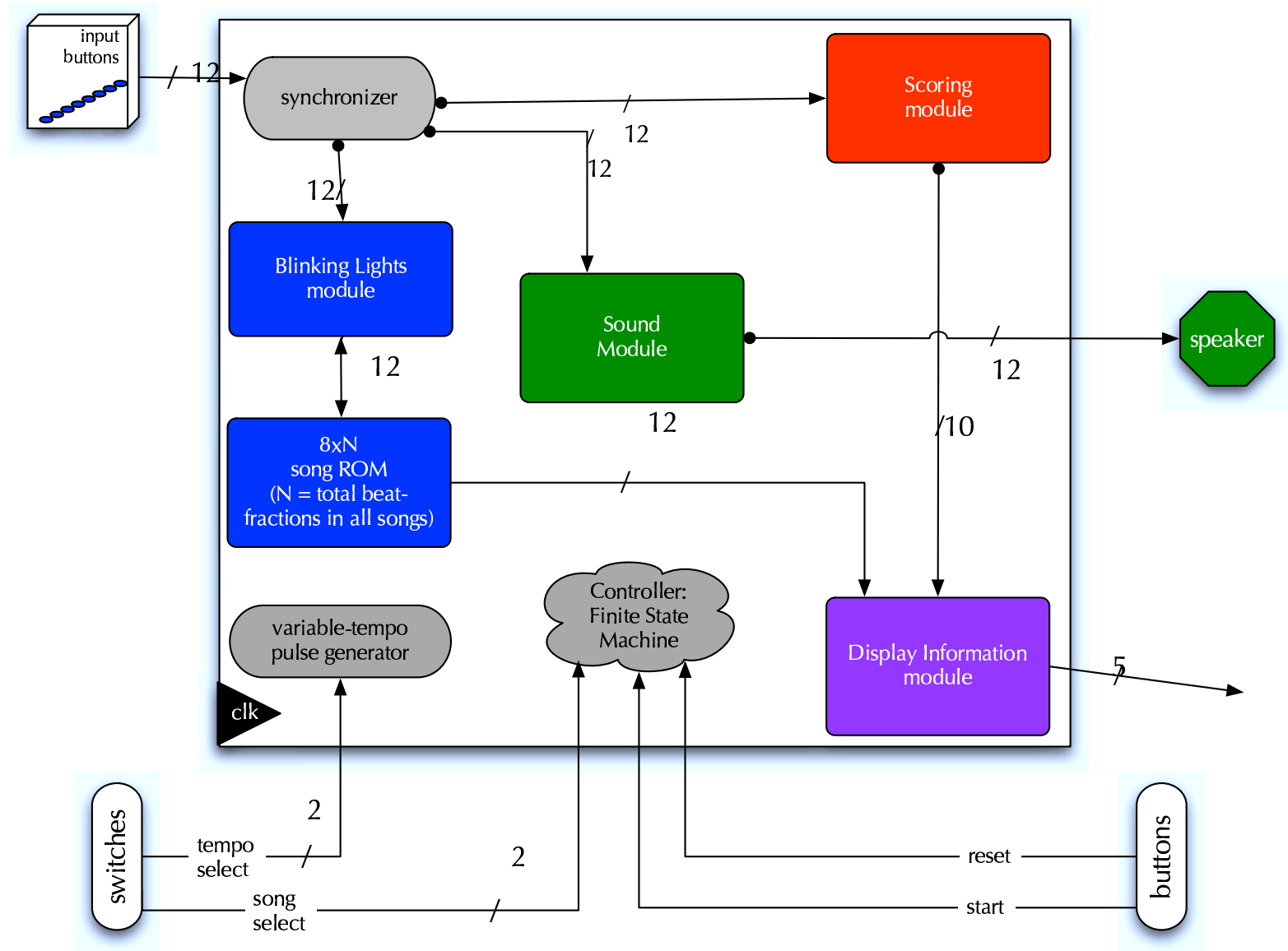


Digital Music Tutor

Katherine H. Allen

Diane Christoforo

Overview



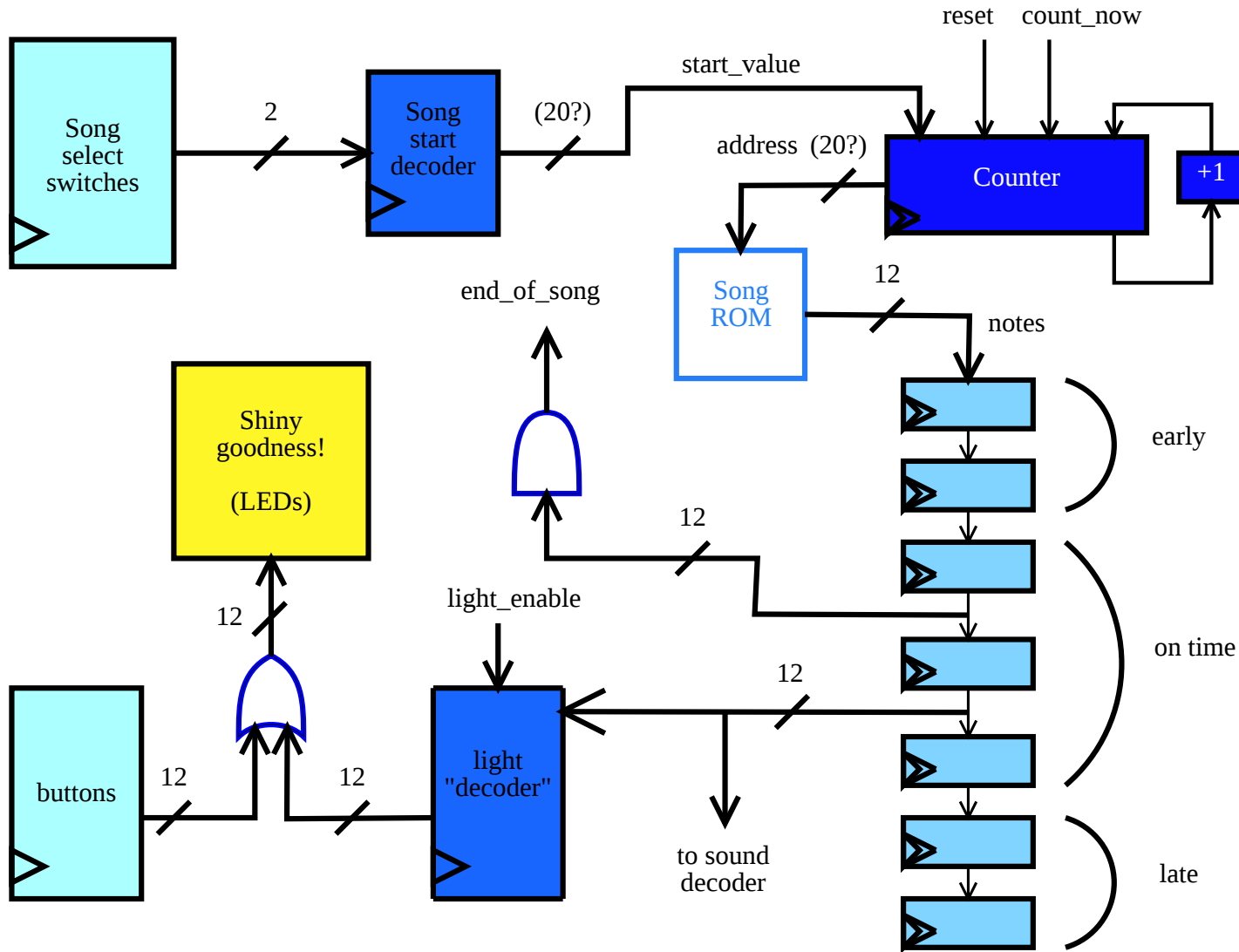
How it Works

- User selects a song
- Song starts
- User plays notes prompted by sheet music
(*or optional video prompt*)
- User's input is compared to the song ROM and scored

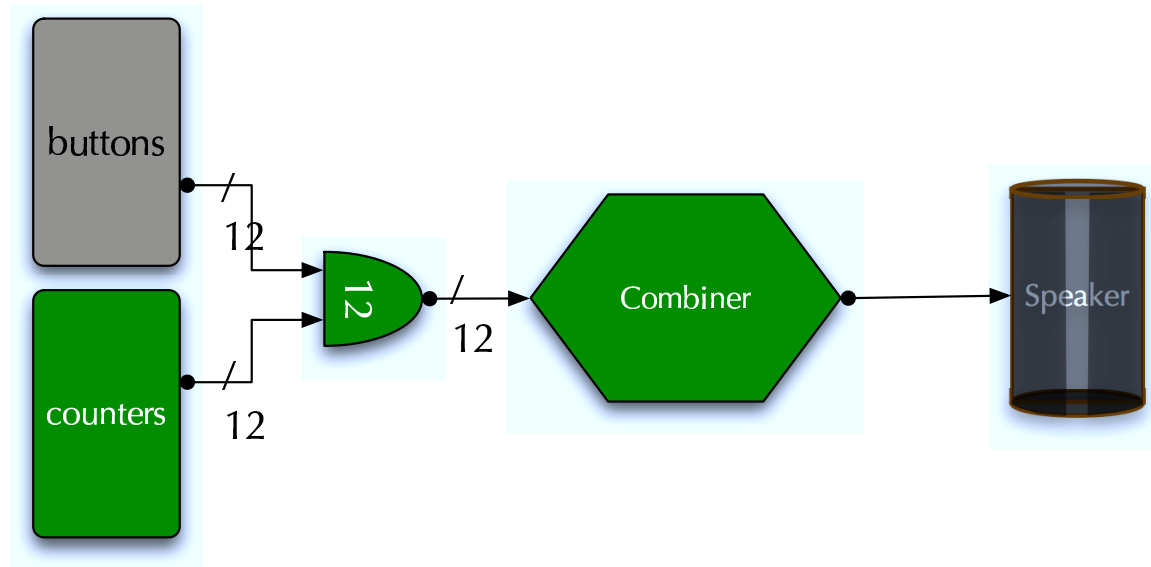
Matches Position				
< -3	-3 -2	-1 0 +1	+2 +3	> +3
-1 pts	+1 pts	+2 pts	+1 pts	-1 pts
Score Change				

- User score is displayed through seven-segment display on labkit

Lights Module



Sound Module

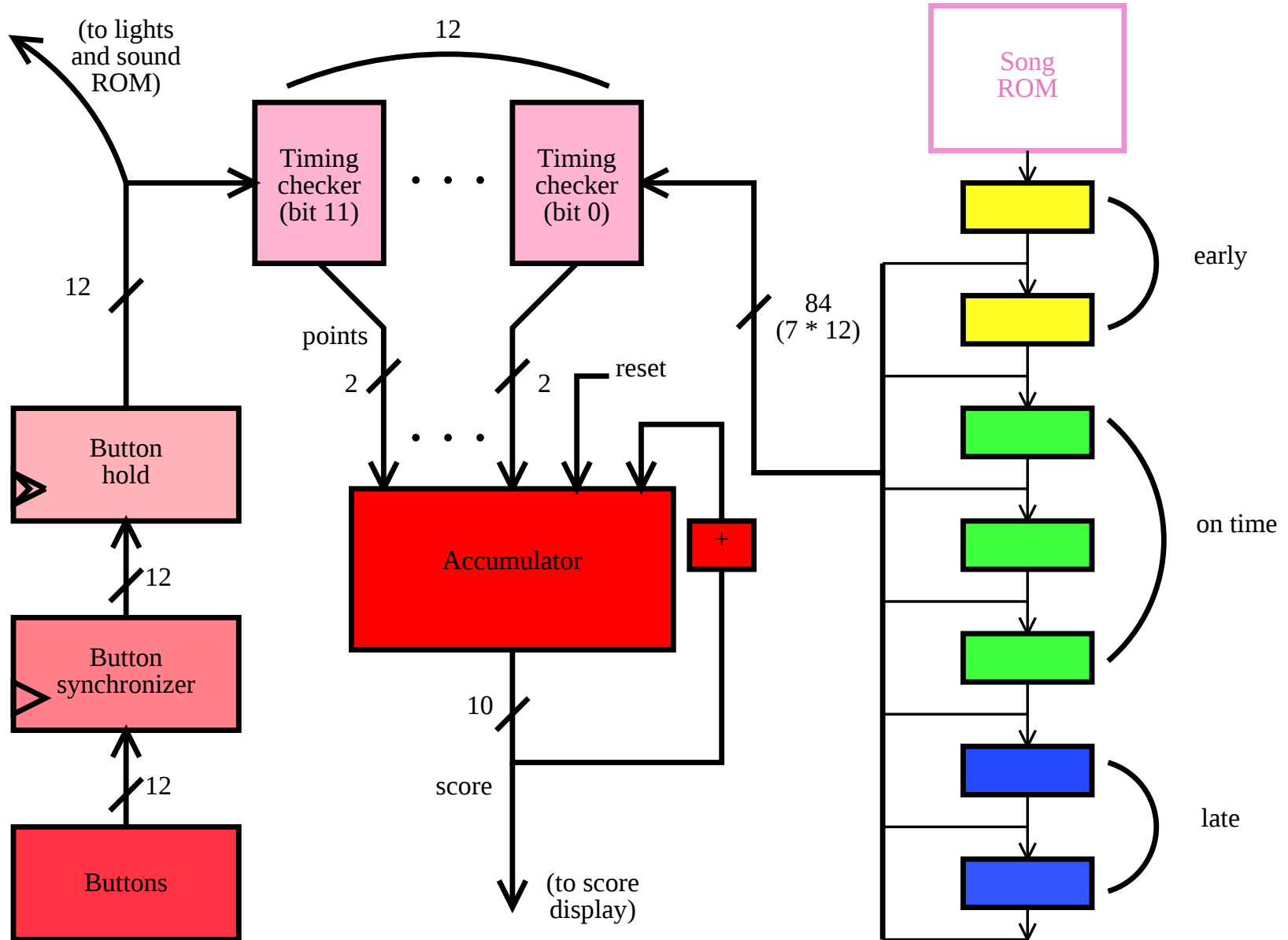


- Single notes or chords are played using clock dividers
- The wires which light the buttons act as enables for the sound
- Chords are played by combining the square waves before sending to the speaker

Note Clock Frequencies

Note Name	Frequency (Hz)	1.8432 Mhz Clock Ticks
F	349.228	5278
F#	369.994	4982
G	391.995	4702
G#	415.305	4438
A	440	4189
A#	466.164	3990
B	493.883	3732
C	523.251	3522
C#	554.365	3324
D	587.33	3138
D#	622.254	2962
E	659.255	2795

Scoring Module



Video (Optional)

- Over Thanksgiving Break we will evaluate the feasibility of video
- By December 1, 2004 we will commit to building or eliminate the video module