Bruno Diaz Digital Systems Design Final Project Flow chart

Increment set_minute

—right—

Has push butron left right or neither been pushed?

—left—

Increment set_second

no

Has 10,000 clock cycles been reached?

yes

Increment counter by n+1

Display LED digit At position n Or the display varibles indicated

neither

Is switch 2 set to display current time or alarm time?

Current time

Alarm time

Display variables:set_minute set_hour Set second temp

Display variables:set_minute set_hour Set second temp

100 MHZ clock

Is the speed switch on normal of fast?

—fast—

normal

Has 49999999 clock cycles been reached?

no

Has 833332 clock cycles been reached

no

yes

yes

Toggle second clock

yes

Has 60 clock cycles been reached?

no

no

Has 60 clock cycles been reached?

yes

Toggle minute clock

no

set_hour==hour? Set_minute==minute?

yes

Activate alarm

Toggle hour clock

Has left push button or hour clock reached positive edge?

Increment hour

Has right push button or minute clock reached positive edge?

Increment minute