

2012 年臺灣國際科學展覽會

優勝作品專輯

國家：New Zealand

編號：110009

作品名稱

Hourglass 2011

得獎獎項

三等獎

作者姓名

Conor King

Abstract

Over the past year Conor has been developing an electronic time keeping device named Hourglass. Hourglass has a three-fold focus on functionality, intuitive design and simplicity.

To simplify the device he has limited the hardware to a bare minimum. Just three buttons and an LCD screen comprise the user-interface. Although this interface is simple, the user can access many features. These include intuitive scrolling menus, countdown, lap and alarm functions, accessed through button combinations as well as multiple ways to use single buttons, such as holding or short pressing.

Many functions have been integrated into the device, such as a stopwatch with lap times, a countdown, up to 99 Custom Alarms with an individual active/inactive state and a lock/unlock feature. The stopwatch is accurate to 1 second and can be started, stopped, reset and used to record lap times. When laps have been recorded, the user can then take the time value of a lap and turn it into a countdown. A countdown of up to 99 hours can be set, and will run until deactivated or until it reaches zero. Upon reaching zero the alarm is activated. The home screen displays the time, any active countdown and notifies the user if an alarm is active. It can be locked or unlocked by holding the blue button a set period of time, helping to reduce any inadvertent change in setting.

All of the functions available can be operated easily with the intuitive 3 button interface method. The menu system is simple, but has been set up through clever coding. An arrow indicated which option is selected, by pressing the top button on the clock the option above the current selection is selected/the menu scrolls up. Pressing the bottom button selects the next option in the downward direction/scrolls down. The button in the

centre positioned off to the left is used to activate an option. When a Yes or No prompt appears on the screen, the action corresponds with the button position. Therefore the triangle layout of the buttons is simple and intuitive.

Thus Conor's device relies on complicated, yet elegantly formulated and annotated code and simple hardware interfaces to interact with the user in a way which is intuitive and provides great functionality. It does this while being simple and easy to understand. Here these principles are applied to a clock project, but there are implications for good design that go way beyond this context.

評語

Good presentation.

Polished a complete work.