SNÜZz

alarmingly simple

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The concept behind Snüzz is **a non-audible alarm clock**. This would be worn as a wristband and would **vibrate** with increasing intensity to cause wake-up. Ideal for those sharing accommodation (eg. couples, roommates) and also those with hearing difficulties. Other features would include **status lights** and a **magnetic clasp** which activates/ deactivates the wristband. This would all be controlled via a **smart-phone app** which also functions as a standard alarm if the user is not wearing the wristband.

Existing products (Figure 1) are dated and bulky with inbuilt user interfaces which are awkward to use. Our product would consist of a slim silicon band similar to that of a fitbit (Figure 2) which would be much more comfortable for the user during sleep. The phone interface makes it easier to use and integrates features such as repeated alarms, variable intensity and the back-up phone alarm system

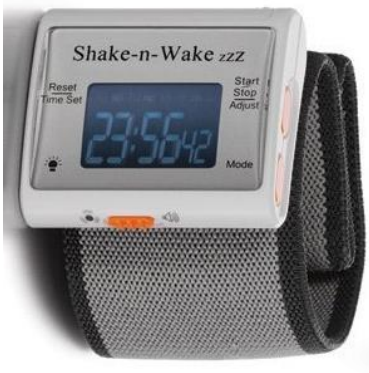

Figure 1: Existing Products : http://www.amazon.co.uk/

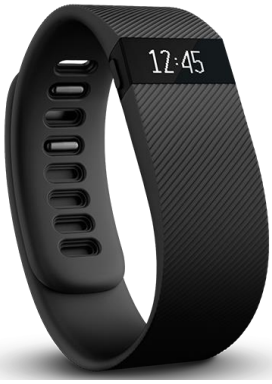

Fig 2: Ergonomic Inspiration: fitbit.com

Fig 3: Initial Prototype

Fig 4: App Logo

Due to limited equipment our prototype (Figure 3) integrates a piezo speaker instead of a vibration motor to simulate the response to alarm signal. The alarm automatically turns off when the user removes the wristband and this is instigated using a magnet at one end of the clasp and a reed sensor at the other. A USB connection had to be used as a power supply to give the 5V needed for the LED strip. Ideally in the final product we would use a 5V lithium-ion rechargeable battery instead.

Initial issues consisted of logistical issues such as struggling to find tutorials and waiting for some required software to download. The tutorials were then often difficult to follow and the BLE nano was very fiddly to make changes to. Once this issue was resolved there were there were several design iterations as issues were found and resolved. These included changing pin allocations to allow us to simultaneously load code onto the chip and run the chip to make editing easier. We also had to simplify our prototype design and eliminate features such as a standby switch to complete it within the 25 hours.