

# Life bottle

## Final report

---

SD348 Introduction to industrial design  
42077 – Internet and multimedia technology

Group members:

WU Hao

WANG Han

HE Jinbo

WANG Shangbin

## Index

---

I.	Introduction	-----	2
II.	Target user	-----	2
III.	Brainstorm	-----	2
IV.	Supposed features	-----	3
V.	Final idea	-----	4
VI.	Basic design elements	-----	7
VII.	Marketing strategy	-----	11

## I. Introduction

Water is considered as main component of human's body and it could help keep the body under the right temperature. A sedentary adult, who always sits in front of computers, needs an average of 1.5 liters of water every day if he/she wants to keep healthy. However, the fact is that people may busily get involved with their work and forget to drink water regularly.

The product we want to design could remind people to drink water at the right time and help people get rid of those symptoms like sticky mouth, dry skin and headache caused by dehydration.

## II. Target user

Users we focus on should be those people who may always concentrate on working on something so that did not acquire enough water in time. Students are more likely to become dehydrate since they are relative weak in time management and thus forget drinking water. Hence, we decide to make student as our main target user.

## III. Brainstorm



Just as the image shows above, the main concept of our product is to help those unhealthy students who lack enough sports and may sitting long time and become dehydrate eventually. According to this, the designed product could be **put on tables** and **remind** user to drink water eventually.



	Put on table	Remind	Convenient to drink
Phone App	Y	Y	N
Step counter	N	Y	N
Functional Bottle	Y	Y	Y

Here are something may have part of characteristics mentioned above. After simple comparison, we decide to design a **bottle** that could **remind** users to drink water. The biggest advantage of a functional bottle is that users could drink water instantly and directly. If we use an electronic device like mobile phone to perform the reminding, users firstly need to reset the reminding function on the device and then look for the bottle for water, which is not convenient.

## IV. Supposed Features

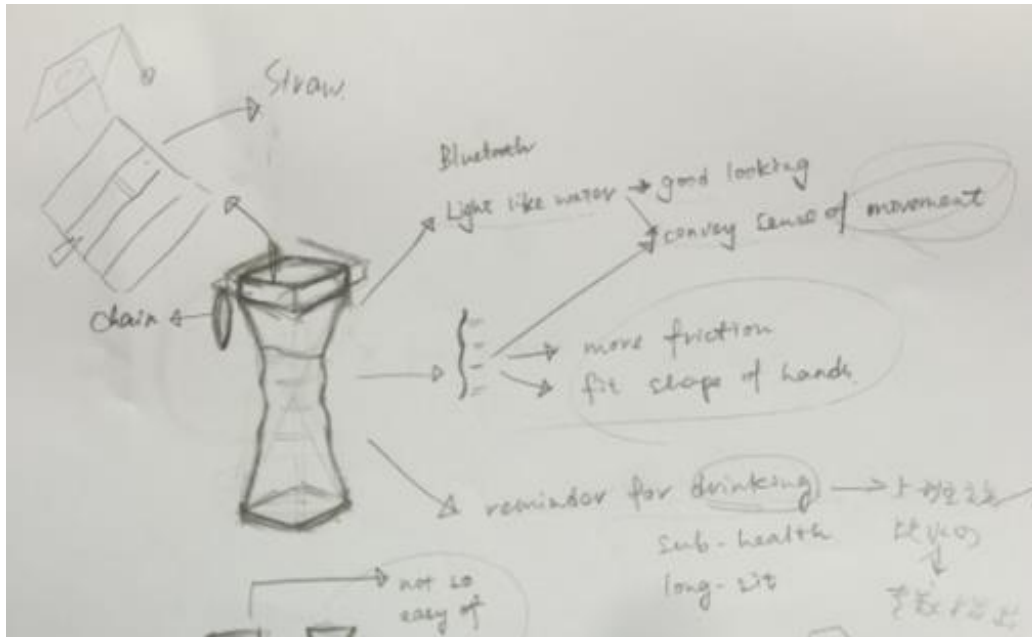
There are three main features about our proposed product: Bluetooth, alarm system and notification, light changing for interaction with users and emotional lighting function.

Since nowadays people are always bring mobile phones with them, we suppose that the bottle can be connected with mobile phones using Bluetooth. Then, with mobile phones, we can achieve a lot functions. For this product, using the motion detection technology, we can use mobile phones to do the step counting job. Besides, designing apps for mobile lighting bottle can help users to configure the bottle more easily, for example, setting the time interval between two water drinking, setting the daily water intake amount and setting the color of the bottle, etc.

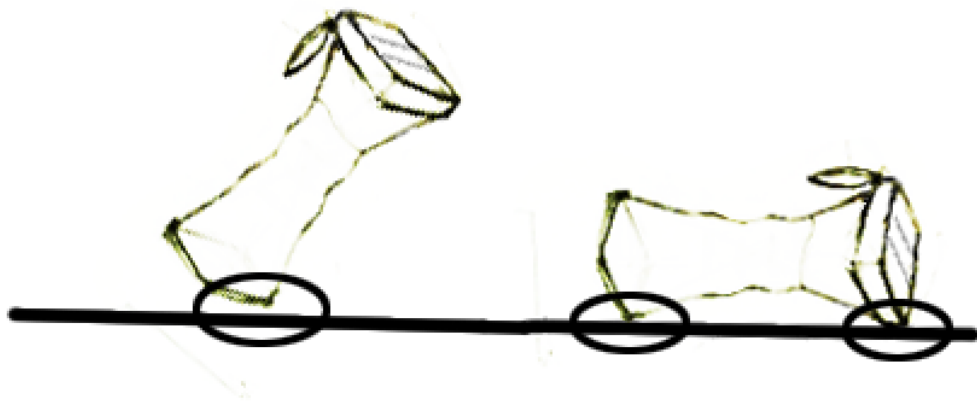
As the main purpose of our product is to encourage young people to do lead a healthier life style, the alarm and notification system should remind the user of drinking water. From the research of our target users' daily action pattern, we found most people have the need of always moving around offices and classrooms for either meetings or lectures. A bottle will be needed for frequent water supply. Most of our target users also sit for long time in front of the computers for working, studying or playing. They rarely spent time on other things rather than computer and paper works, so they may need something to distract them from their work. From all the above reasons, we think a bottle with gentle light changing notice function would be a perfect choice. The changes of light may remind the user to drink water and refill water.

The bottle can interact with the users, give them essential information and remind them for a healthier, better life styles.

Also, we have introduced emotional lighting into our product. Using the gravity sensor, the light can change as the water in the bottle conveying a message of movement and liquid. This should inspire feelings of thirst and eager to exercise.



The original design of our product contains the following ideas: square cap and square stand, chain for lifting, thinner middle body, straw and hand shape body. The square cap and stand are supposed to make the bottle less easily to roll around. And thinner middle body should protect the lighting material from being damaged. Hand shape is designed for easy holding.

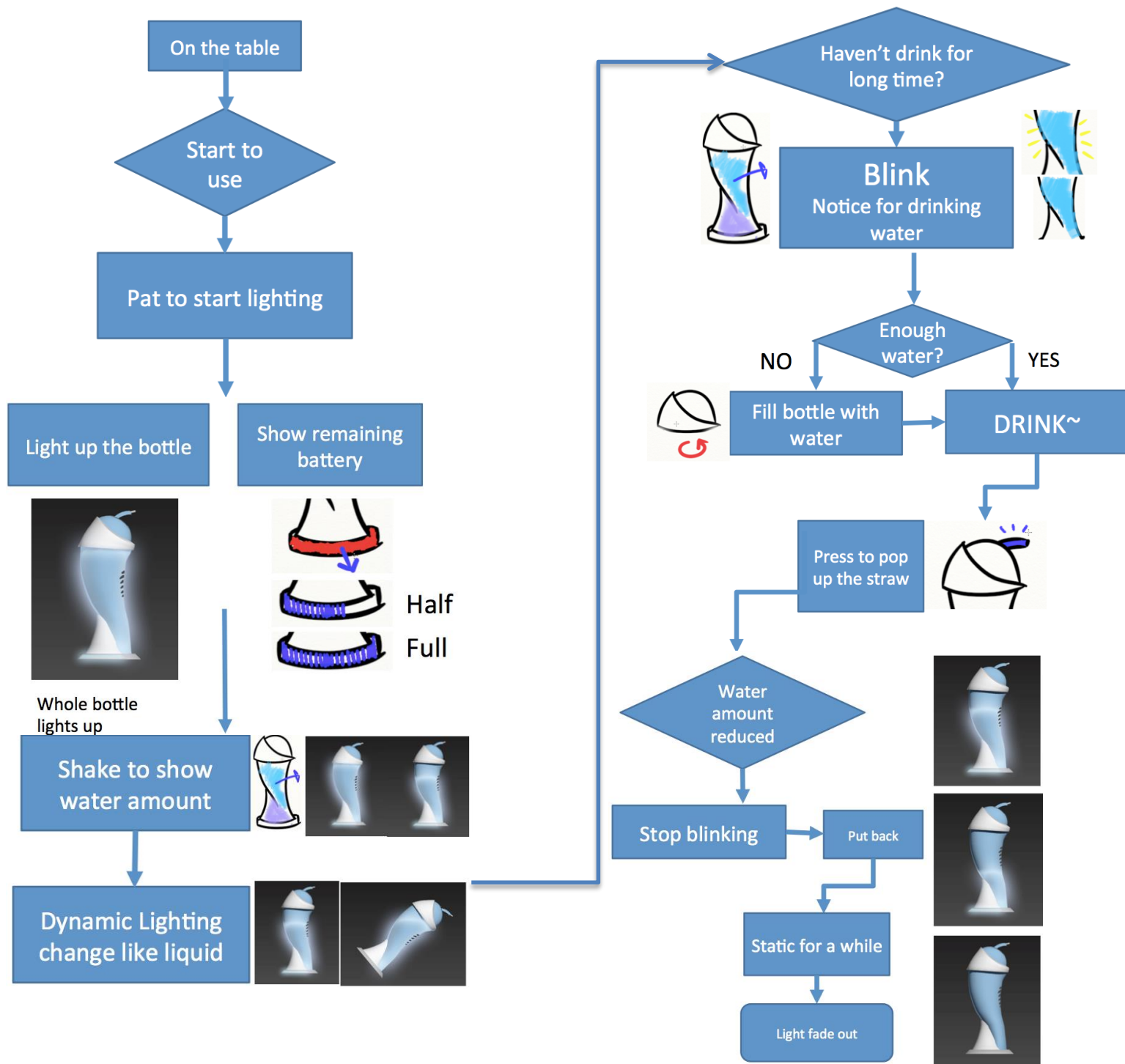


## V. Final idea

The mobile lighting device finally to be decided as a mobile lighting bottle, which follow the key words of lighting, sportive, drinking and bottle.

The bottle is designed to have a sportive appearance, which should convey the message of more exercise or time to exercise. And

lighting function will follow the action pattern of users. The explanation of our lighting function will follow the flow chart below.

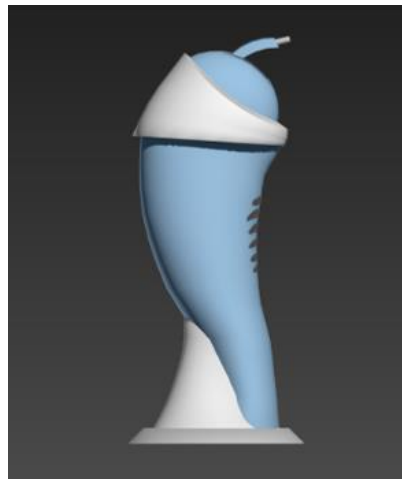


From the flow chart it can be easily tell the lighting scheme should be like at each period. In all the lighting system should do the following things: when user pat the bottom part of the bottle body, all the lighting devices will be

activated and the user may know the basic information of water amount and battery remaining amount. When the battery bar goes nearly empty or the bottle does not light up it means the bottle needs to be charged.



When user hasn't drink for a while the body will blink to remind the user to drink. After a few shake the lighting of the body will change its level to the water level and the light will move and change with the water like liquid. This function both generate an emotional lighting of beautiful, peaceful liquid, also tells the user how much water remains. Finally, when the bottle has been stable for long time the light will fade away to save energy.



The body of the bottle is designed to be hand shape in which way the friction will be increased and also be more easily to hold. We also make the appearance of the bottle very sportive. From our information gathered from the Internet, most sport bottles are designed to be streamlined, easy to hold, and have small straws. Therefore, to generate an image of sport bottle and be more sportive, we generally follow those rules while designing the appearance. In this way, this bottle can give people a feeling of need of exercise, thus to be healthier and more energetic.

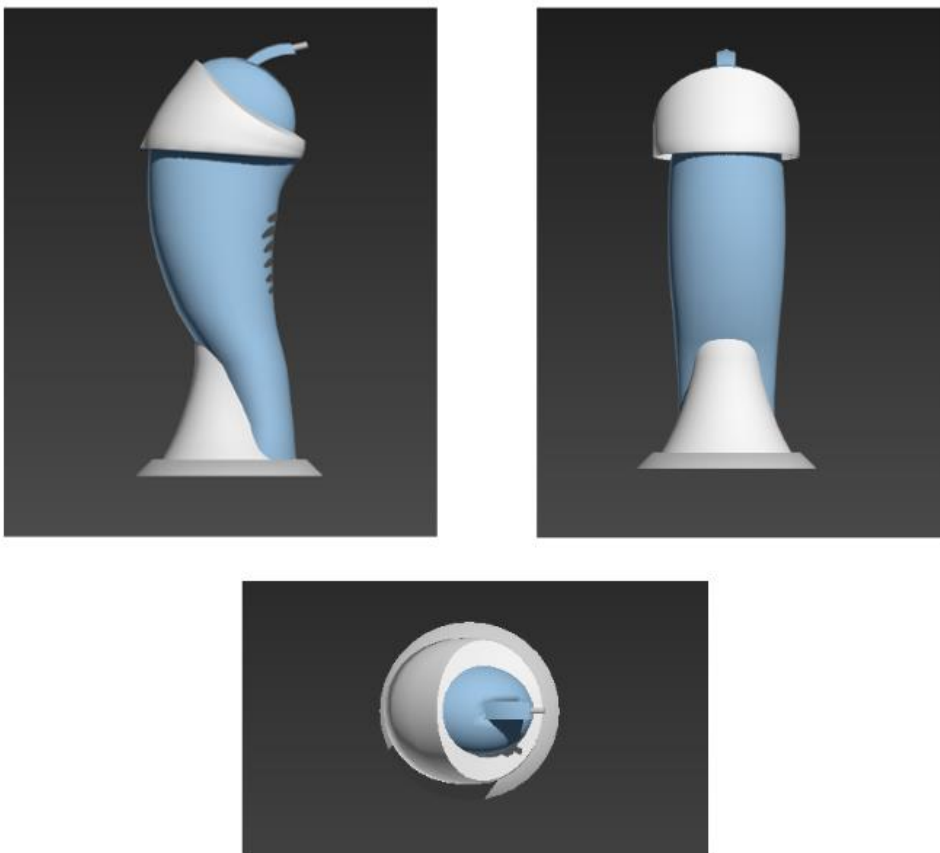
Finally, the charging battery comes from the criteria of green and environmental friendly. Deposable battery may be waste of energy and damage to the environment, so we decide to make the bottle chargeable and reuse the battery for as long as possible.

## VI. Basic Design Elements

This design section will introduce the designing procedure of this product. The form color and size will be described in details.

### VI.1 Form

The inspiration of the form of this bottle comes from the world cup. The three-view below could basically shows the form of this product.



The bottle could be generally divided into three parts: the head, the body and the bottom.

The head is a semi-sphere partly cover by sail-like fence and a straw could pop up at the center.

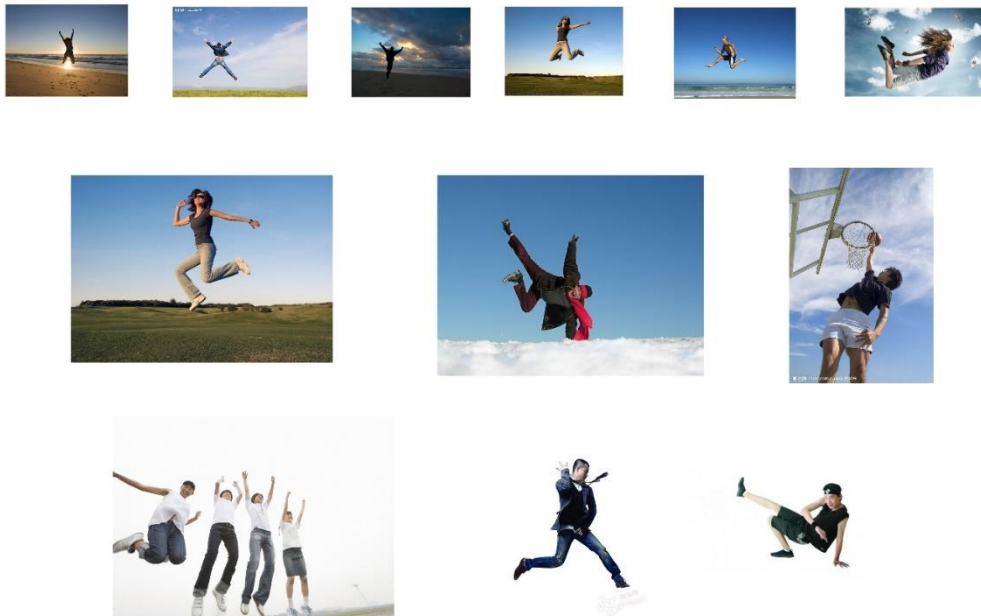
The body part has its own smooth curve and has a narrow waist. Such design is to protect the body: If the bottle falls down, the head or the bottom will suffer and absorb the impact while the body could keep in good condition.



The bottom part is an extremely flat platform. It has a wider bottom edge for better stability of the bottle.

The smooth and appropriately bent shape of the bottle could remind users of sports and movement, which is the aim of the form design.

## VI.2 Color



蓝色：活力，精力，动感



The above figure is our mood board when design and choosing the style and color of our product.

Blue sometimes represents energetic and dynamic, which fit the sports theme very well.

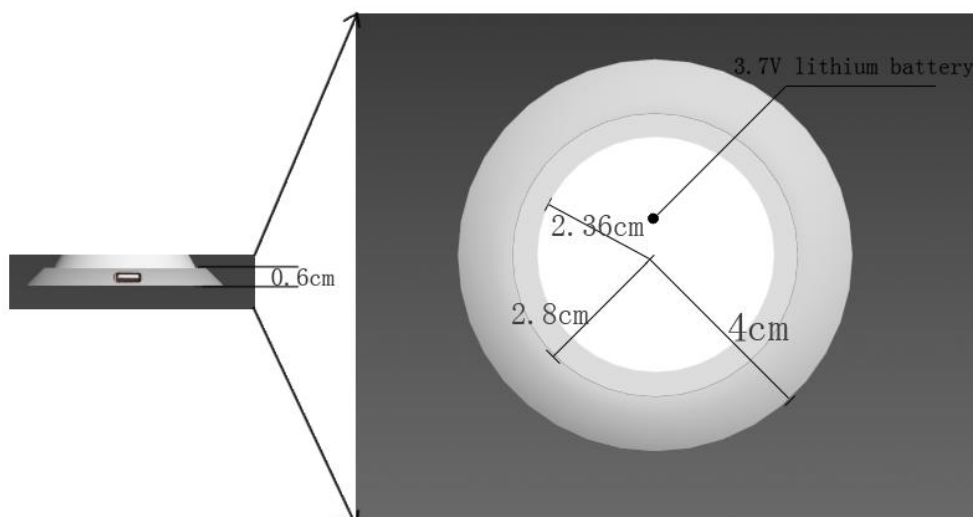
Based on the above reasons, the product is painted mainly by blue and decorated by white.

### VI.3 Size

This bottle has a cubage of 420ml while an adult needs to drink about 1500ml water every day. So that drinking four times with our bottle could offer enough water for users' body.

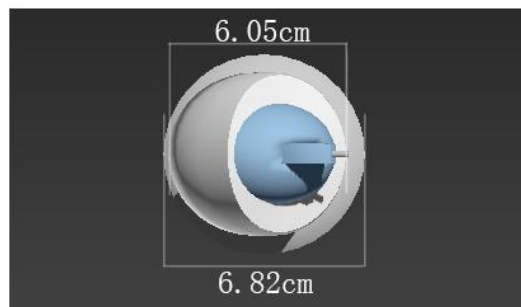
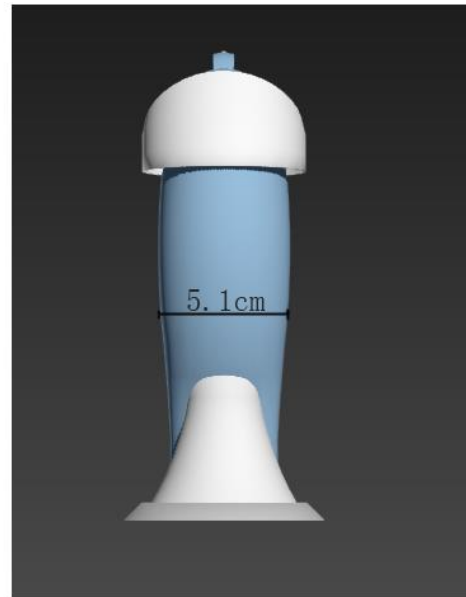
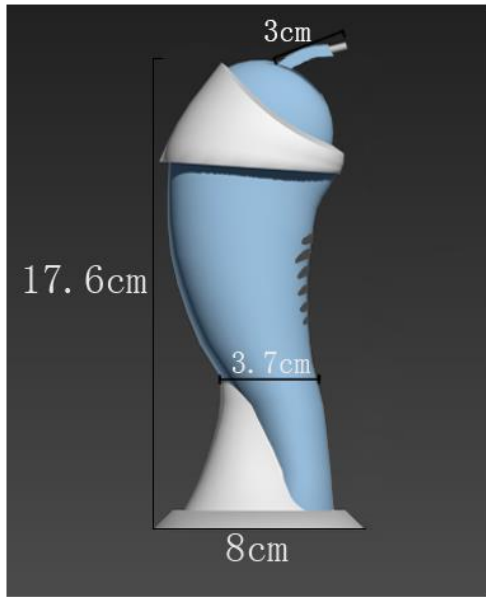


The details size data will be shown in the figures below:



Bottom of the bottle

The white part with a 2.36 radius represents the pie-shape battery of this bottle.



Such size is appropriate enough so that most bottle cages could support this bottle.

#### VI.4 Materials

The bottom part contains a 3.7V lithium battery, a Gyroscope (Gravity sensing device) and a USB jack.

The 3.7V lithium battery could support continuous lighting for 8 hours. The life span of this battery is from three to four years, which also depends on the using and recharging frequency.

Bottom part should be made from heat insulating material, because lithium battery is temperature sensitive and may be harmed by high temperature.

The body should be made from polymethyl methacrylate. Such material is tough but light. Lights could pass through this material easily as well.

The head could be made from plastics. There is no special requirement for the head, so plastics are the cheapest material that could realize the basic head function.

## **VII. Marketing Strategy**

Our lighting water bottle is named as “life bottle”.

The aim of our product is to bring the target users healthier life styles: notice them to drink more water and exercise more. The word “life” contains the expectation of health improvement, which is the core value of this product instead of just being a container.

Just like what is known to us, Water is the base of life and life lies in healthy exercise. This word should be suitable for a water bottle.

Besides, this bottle is also a high-tech and fashion product. With the well-designed appearance, developing this product to a fashion symbol or icon could also be a good strategy.

### **VII.1 Band creation**

“Life Bottle” is a simple and fantastic term. The lighting mode notices that it time to drink. With the heavenly light, user can feel that water is a gift and drink water happily.

The core value is life, which means health. The good appearance may also bring other value such as fashion and topic.

For further development, auxiliary product could be brought out as well.

### **VII.2 Marketing strategy**

There are these strategies that could be taken:

#### **1. Advertisement**

The advertisement is the most common way to promote a product at the when entering the market.

Celebrity advertisement could be taken: Invite celebrity in sports field or celebrity who are very energetic could well promote this product.

#### **2. Bundle sales**

Negotiate with other sports companies (e.g. Nike, LiNing) or other health companies (e.g. Amway) to give the so-called “bundle sales”. For example, after buying some sports T-shirts, the consumer could have a discount when buying this “life bottle”

### **VII.3 After sale service**

There are the following after sale services which are provided:

1. Maintenance

Because of the technology used on this bottle is updated, which may not be offered everywhere, the maintenance service will surely be provided by us.

2. Color & Module Change

This product will have different modules and color styles. If the consumer is not satisfied with a specific module or color, the change service will be provided.

3. Personal tailor

Because of the relatively high price (HKD 170), personal tailor could be taken into consideration as well.

It could maximally delight the user and build a relatively deep customer relationship.