

# Back to the mouth

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## 1. Introduction

In this paper, we focus on breathe and propose interactive system “Back to the mouth”. There are many studies related to respiration of breath, but our emphasis is on mouth odor. Study of smell using input is not progressing in comparison with study of smell using output. This system uses mouth odor strength as a trigger in addition to breathing action. By using mouth odor, there is possibility that a better breath device would be developed.

## 2. Back to the mouth

“Back to the mouth” is a system activated by breath and mouth odor. The user eats/drinks something to control the user’s mouth odor. Then it is possible to kill monsters on a screen by blowing/sucking a blowgun-type device. The user plays this system, repeating the actions of, “eating/drinking, aiming, blowing and sucking” (Fig. 1).



Fig.1: How to play “Back to the mouth”.

### 2.1 System constitution

Fig.2 shows system constitution of “Back to the mouth”. The user aims a blowgun-type device and blows the device towards the monsters. The user can strike the monsters only for specific mouth odor. To strike them, the user needs to control their mouth odor by eating or drinking during the system. There are the monsters which aren’t repulsed unless the user’s odor is weakened. Therefore, a user must weaken the user’s mouth odor by drinking green tea or water corresponding to the monster’s weak point. A flying arrow is affected by the wind as in the real world. Therefore, it might not go straight. There are 8 blower fans reproduce wind in the system. The user feels the wind from the blower fans and needs to aim accordingly. The smell that

comes from user’s mouth is diffused by the wind. We set up an IR LED in the center of a screen and an IR camera instrument on the blowgun to measure the direction of the device. The screen is covered by a white cloth to hide the IR.

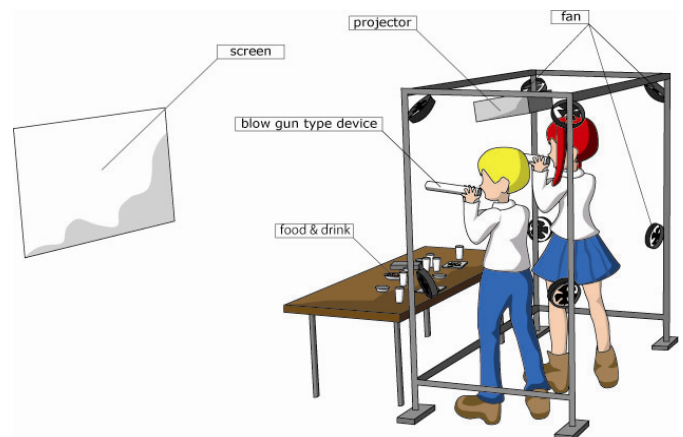


Fig.2: System constitution.

## 3. Result

We experimented the system (Fig.4). Many users were amazed by the system. They found it interesting to learn that the user had to eat snacks and drinks in order play. Some children ate their dislike food to beat monsters. We have potential to develop a system which can change the likes and dislikes food. Through our studies and findings we can build a better mouth odor device in the future.



Fig.4: experimentation of “Back to the mouth”.