

# Emotional Ice

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Amazon Japan

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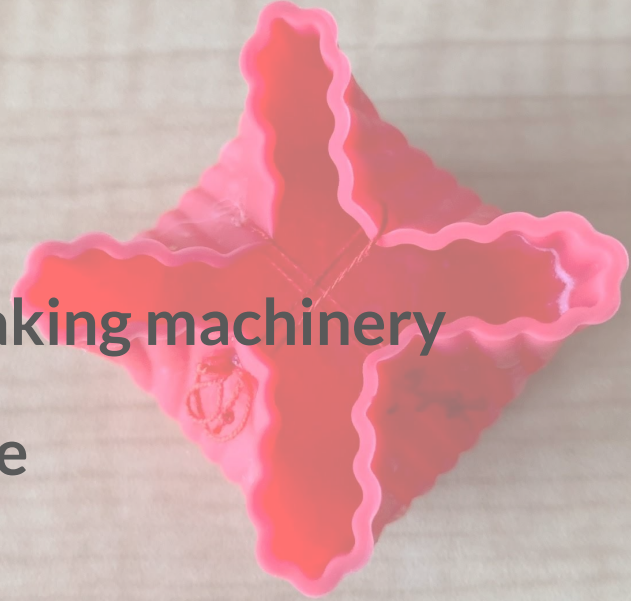
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# 1. About Emotional Ice



## Emotional Ice

**Emotional Ice** is an ice-making machinery  
that changes its own shape



## Emotional Ice

**Emotional Ice** is an Ice-Making Machinery  
that Manipulates the Shape of Produced Ice



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## 2. Background & Goal



## Fitbit



## Apple Watch



## Output







**Create Other Way to  
Review the Day**



**Interaction by Eating**



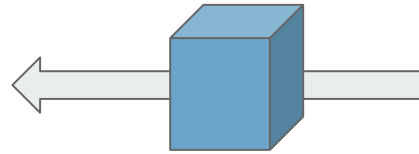
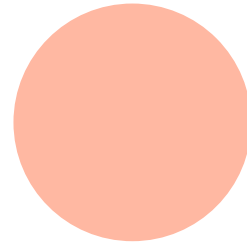
# Purpose of eating



Disembodied



Event



re-embodied  
as an object

## Capturing, Representing, and Interacting with Laughter [1]



Using the data of laughing voice and convert into tangible chocolate.



**By Having an Interaction with Tangible and Edible Interface  
to Review the Day**

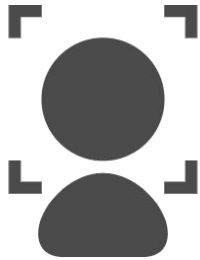
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# 3. Implementation



## Flow of Emotional Ice

Input



Processing

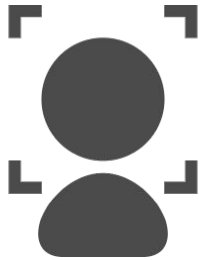


Output



# Flow of Emotional Ice

Input



Processing



Output







# Input



No many chances of  
metacognition

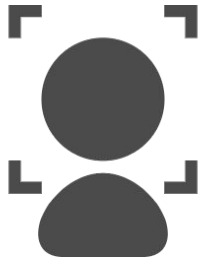


Doesn't last long



## Flow of Emotional Ice

Input



Processing

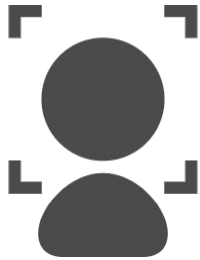


Output



# Flow of Emotional Ice

Input



Processing



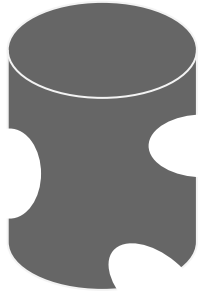
Output



ICE



# Reason of ice






# Configuration

Each of the three having his (her) own way of Interpretation

**Tangible & Edible information should not focus on its readability**

 raw data

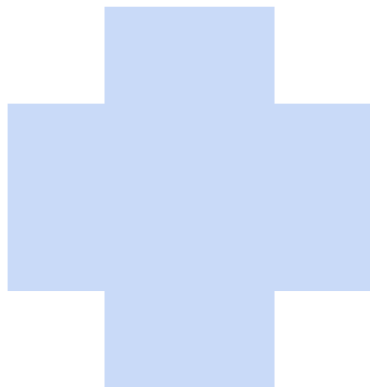
 recall memory and events

Humm... it is kind of rugged  
more than yesterday  
  
which reminds me...





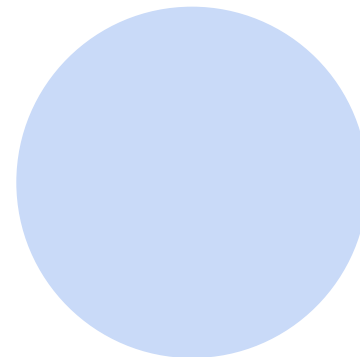
## 氷を食べて感じたいこと



Even if the user feels  
down...



口に入れて溶かす



Rounds off nicely

1

口に入れて食べる

2

水に溶かして飲む

## どのように使うのか？

朝, 製氷皿に水を入れて家を出る



昼, 自由に生活



夜, 寝る前に氷を取り出し  
口に含み転がす



# Usage Example



Morning

Put sugar and water in a mold



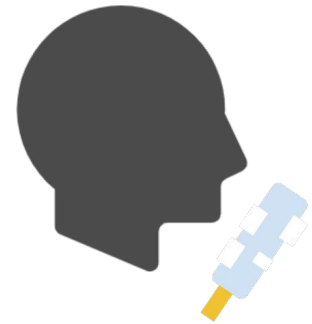
Daytime



Night



Take out an ice stick out  
and put it in mouth







## 氷から何を得て、何を感じたいか？

・[all] 生活の中に溶け込んだ自然な形でその1日を振り返る”きっかけ”を得る

＝受動的なインタラクション. 振り返ろうとする必要がない

・[mouth] 口に入れたとき、氷の凹凸によって生じる舌触りから、1日に感じたことを思い出だすきっかけを得る

・[both] 嫌なことや悲しいことがあった日でも、口に入れたり水に溶かしたりすれば次第に凹みが消え、丸くなってゆく

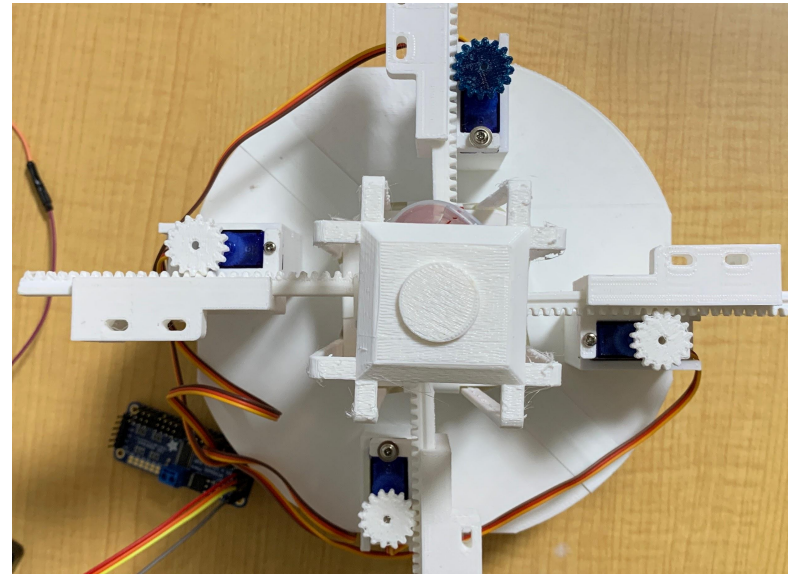
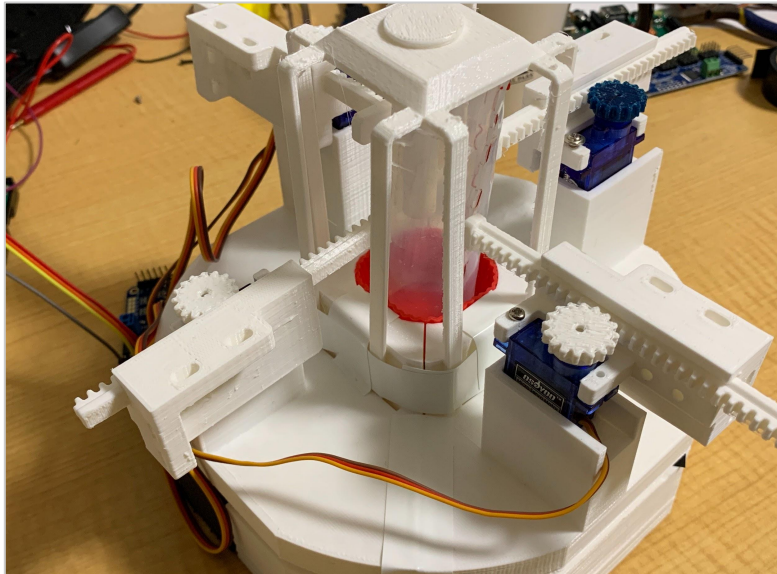






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# Design of Device

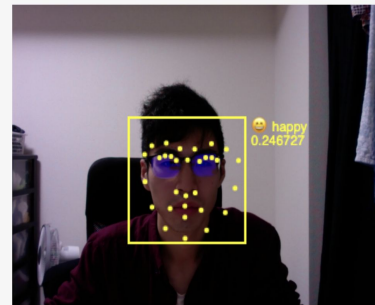


## 入力

ブラウザ上でtensorflow.jsによる表情の推定

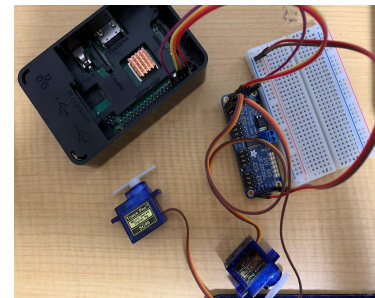
笑顔とそれ以外の表情の検出回数の比率を求める

websocketを用いてサーバに送信



## 処理

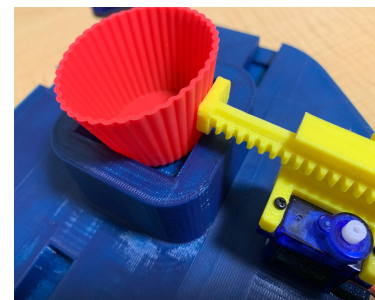
表情の検出回数に応じてサーボモータに出力するパルスを設定



## 出力

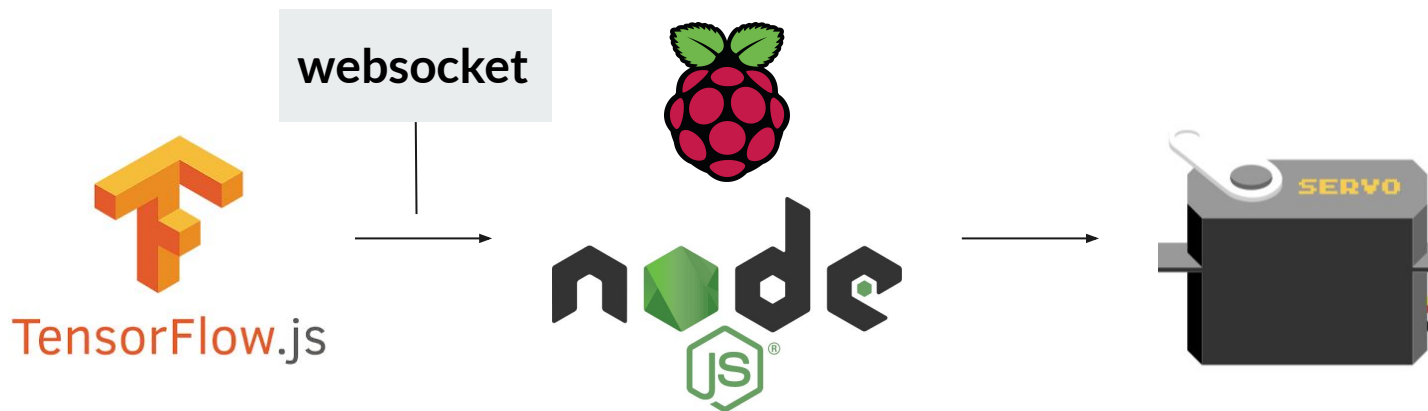
ラックピニオンに接続した4つのサーボモータを動作

ラックの先がシリコンモールドの横面を押し込むことによって変形





# Flow



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## 4. Discussion

# Future Vision




censing



IoT Refrigerator

# Future Plan

- 
- Best input to represent the day more fundamentally
  - Investigate more suitable output for remembering the day
  - Interface to interact more naturally

## 行動はどう変わっていくか？

<Pre-IoT>

思い出そうとして思い出すIoT



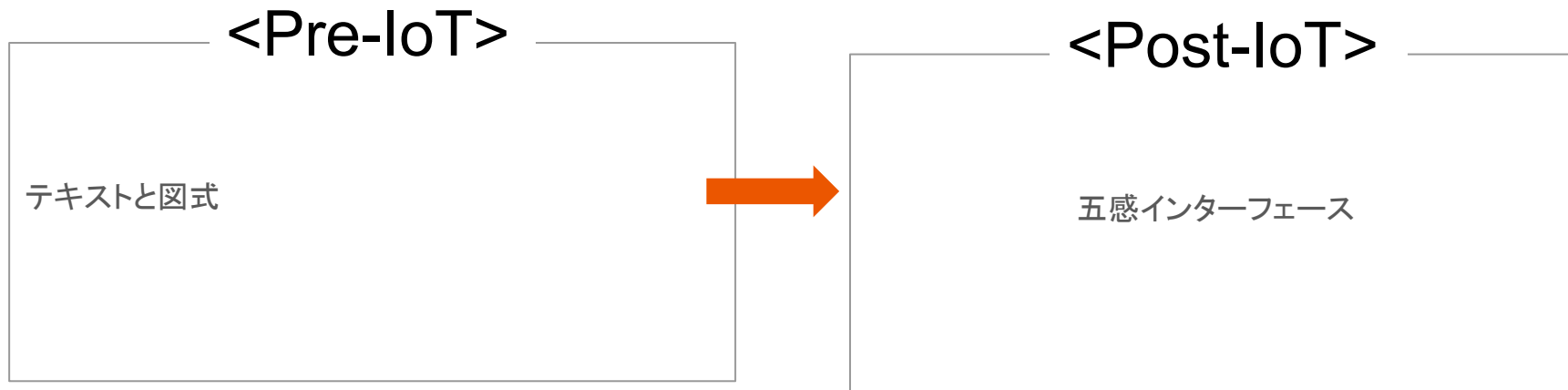
<Post-IoT>

思い出すきっかけを与えるIoT

=能動的なアクションを必要としない



## インタラクションはどう変わるか？







## Reference

[1] Ryokai, Kimiko & López, Elena & Howell, Noura & Gillick, Jon & Bamman, David. (2018). Capturing, Representing, and Interacting with Laughter. 1-12. [10.1145/3173574.3173932](https://doi.org/10.1145/3173574.3173932).

[2] Odom, W., Pierce, J., Stolterman, E., & Blevins, E. (2009). Understanding why we preserve some things and discard others in the context of interaction design. CHI.