Gamifying Daily Life

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FAR EAST ENTERTAINMENT

Agenda

Problem

User Research

Design Exploration

Design Decisions &
Visualizations

Cost Estimate

Next Steps

Questions

Problem

Problems

with at-home therapy

Repetitive exercises require **motivation**

Problems

with at-home therapy

Repetitive exercises require **motivation**

Non-adherence is a major barrier to **recovery**

Problems

with at-home therapy

Repetitive exercises require **motivation**

Non-adherence is a major barrier to **recovery**

Improvement goes unnoticed, difficult to track **progress**
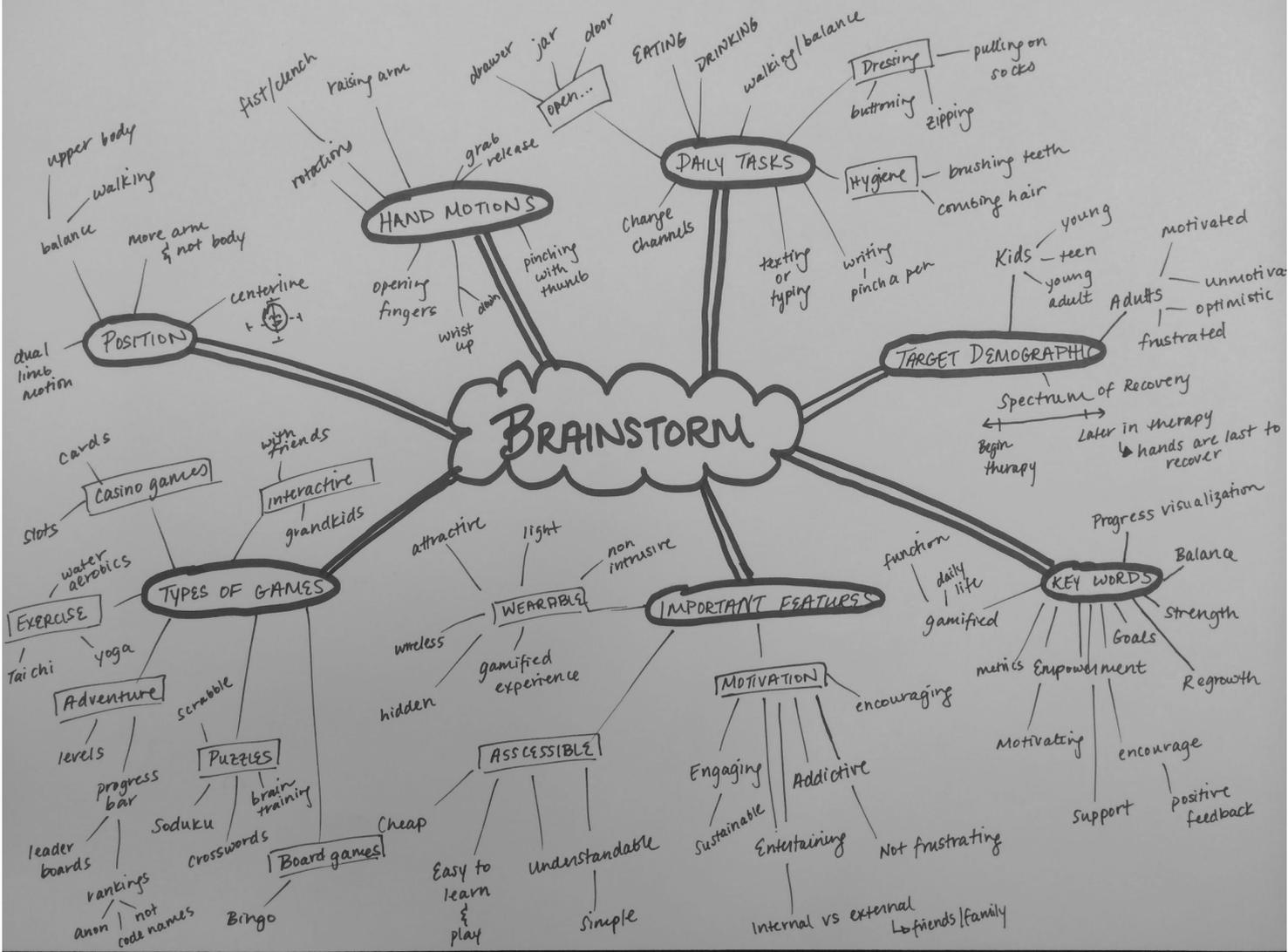
Users

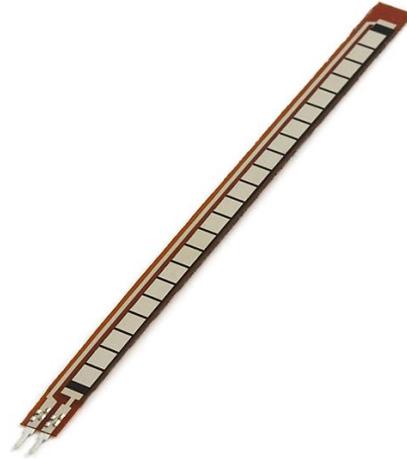Adults who are currently recovering from a stroke

Interviews

Debbie Kenney, MS OTR
OCCUPATIONAL THERAPIST

Eric Mendine
PROJECT ADVISOR
CEO of VisualTouchTherapy

Potential Users
IN THE TARGET DEMOGRAPHIC

Design Exploration

BRAINSTORM

HAND MOTIONS
- fist/clench
- raising arm
- rotation
- grab/release
- opening fingers
- pinching with thumb
- wrist up

POSITION
- upper body
  - walking
  - balance
- more arm & not body
- centerline
- dual limb motion

DAILY TASKS
- EATING
- DRINKING
- walking/balance
- Dressing
  - pulling on socks
  - buttoning
  - zipping
- Hygiene
  - brushing teeth
  - combing hair
- change channels
- texting or typing
- writing / pinch a pen

open...
- drawer
- jar
- door

TARGET DEMOGRAPHIC
- Kids — young, teen
  - young adult
- Adults
  - motivated
  - unmotivated
  - optimistic
  - frustrated
- Spectrum of Recovery
  - Begin therapy
  - Later in therapy → hands are last to recover

TYPES OF GAMES
- Casino games
  - cards
  - slots
- Interactive
  - with friends
  - grandkids
- EXERCISE
  - water aerobics
  - Tai chi
  - yoga
- Adventure
  - levels
  - progress bar
  - leader boards
  - rankings
    - anon / not code names
- PUZZLES
  - Scrabble
  - Soduku
  - brain training
  - Crosswords
- Board games
  - Bingo
- Cheap

WEARABLE
- attractive
- light
- non intrusive
- wireless
- hidden
- gamified experience

ASSCESSIBLE
- Easy to learn & play
- Understandable
- Simple

IMPORTANT FEATURES
- function
- daily life
- gamified
- MOTIVATION
  - encouraging
  - Engaging
  - Addictive
  - sustainable
  - Entertaining
  - Not frustrating
  - Internal vs external → friends / family

KEY WORDS
- Progress visualization
- Balance
- strength
- Goals
- Regrowth
- metrics
- Empowerment
- Motivating
- encourage
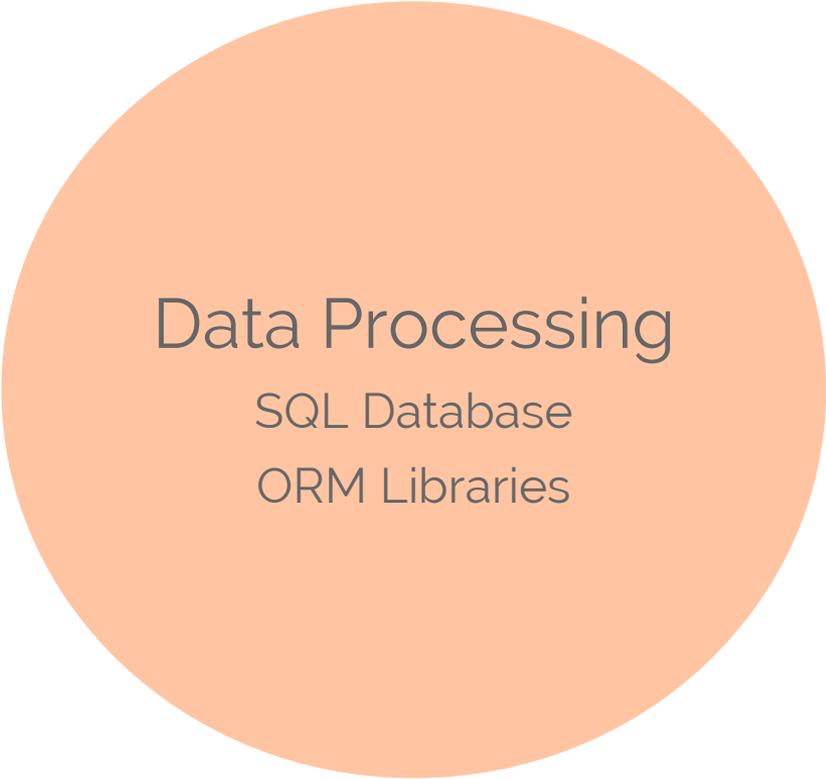- support
- positive feedback

Alternative Designs

Design Decisions
&
Visualizations

Software

Data Processing

SQL Database

ORM Libraries

Software

Data Processing

SQL Database

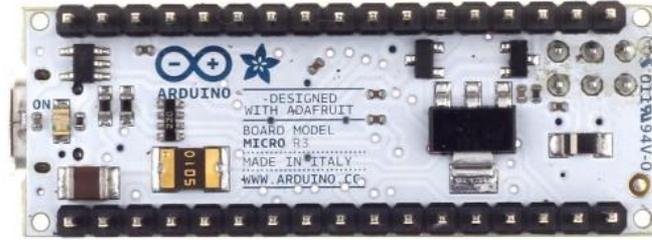ORM Libraries

Front End

Illustrator

Java
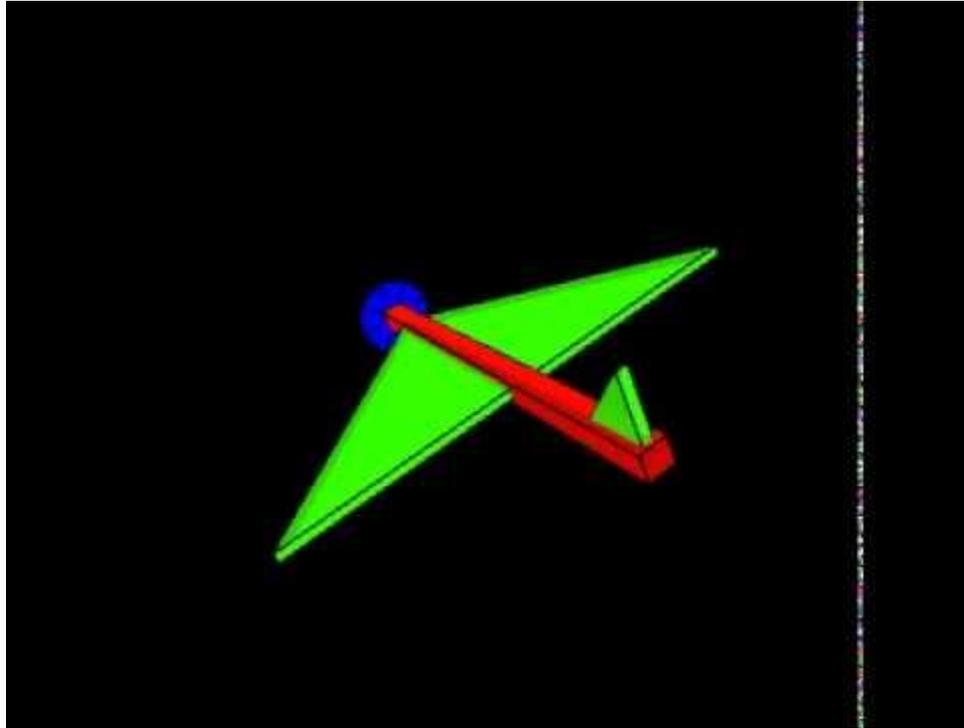
HTML/CSS

Hardware

Hardware
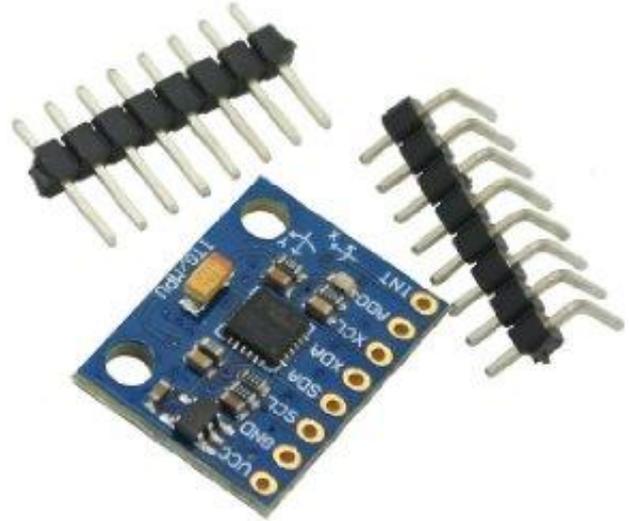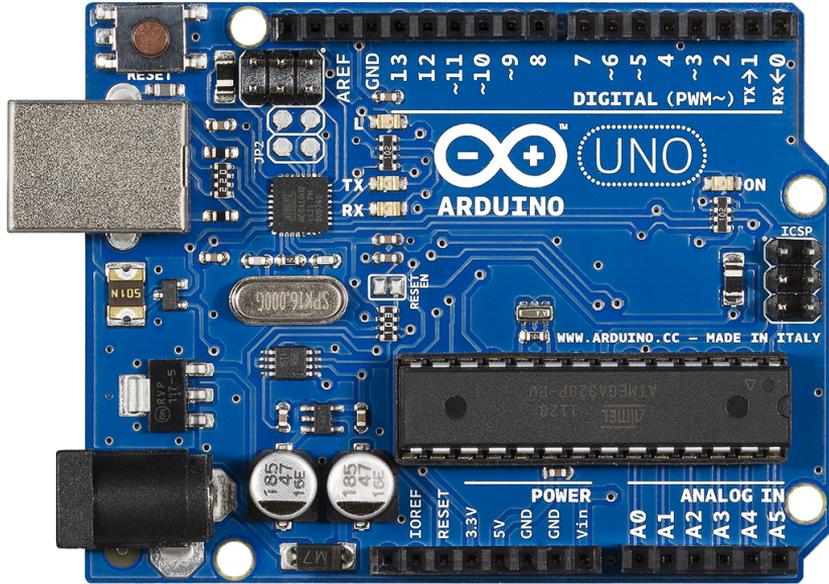
Design visualizations

Design visualizations

Cost Estimate

Estimated Cost

for Arduino Posture Tracker

So far...

- 1.5 feet of wire - $0.1
- 1.5 feet of female jumper cables - $4
- 1 IMU - $5
- 1 Arduino Uno - $29.95
- 1 MPU 6050 Sensor - $29.95
- 1 Digital Arduino Tilt Sensor
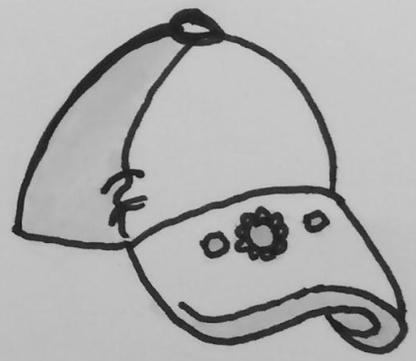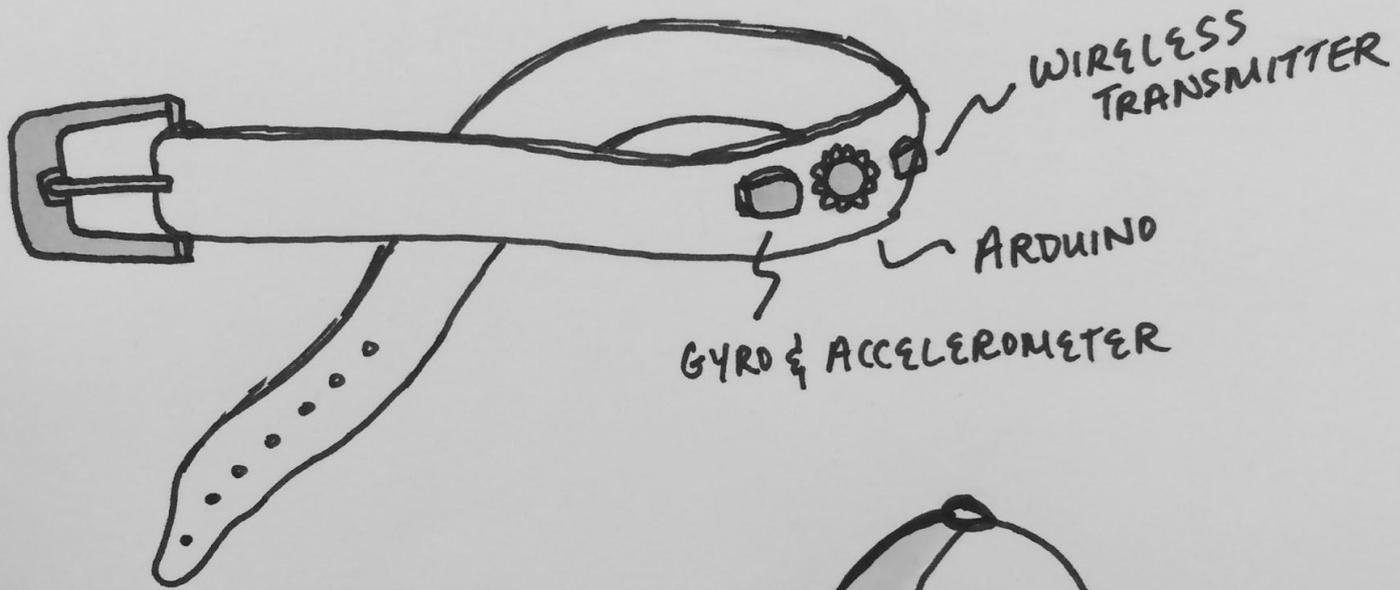- Sales Tax - $3.15

Total - $77.15

Coming Soon...

- Wearable component (hat or belt) - $20-$30
- thread - $3
- Long Flex/Bend Sensor - $12.95
- LilyPad Arduino Board - $19.95
- Esthetics - $20-$30

Total - $75.90-$95.90

Next Steps

WIRELESS
TRANSMITTER

ARDUINO

GYRO & ACCELEROMETER

Next Steps

Technical

Wearable Mounting

Wireless Transfer

Game Accounts

User Acceptance

Patients

Grandchildren

Personal Design