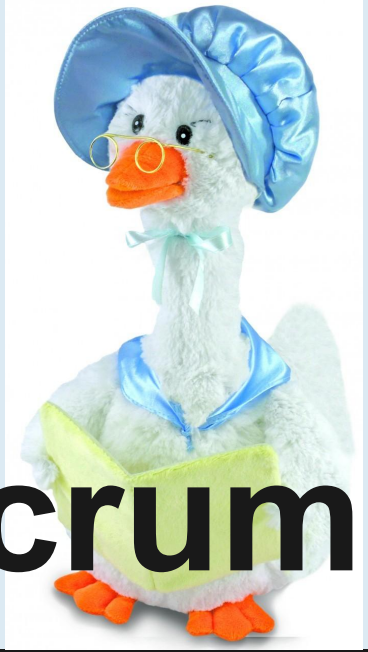
Mother Goose: Scrum 2



Team 2

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EK691 Agile Product Development
Prof. J. Rosen, Boston University
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Goals for Scrum 2

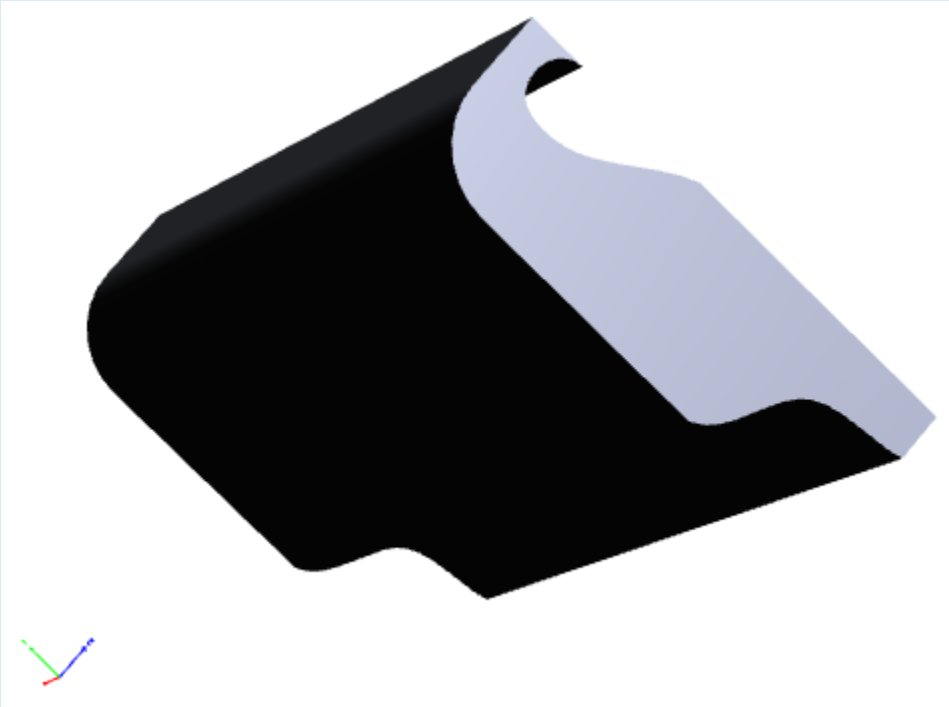
Goals	“Back of the Card” Metric
As a style conscious parent I want to have this device stand on its own and fit any crib	update CAD model to reflect accommodating the kinect or other possible choices for sensors
As a working parent I want the device to be affordable so I can save money for my child's future	elaborate on possible materials that can be used for a final product
As a parent I want to be able monitor my child's breathing	develop the code for extracting meaningful data from the breathing and create a rudimentary data model using the extracted point cloud information

- Focused on improving the 3 aspects that we worked on for the last scrum

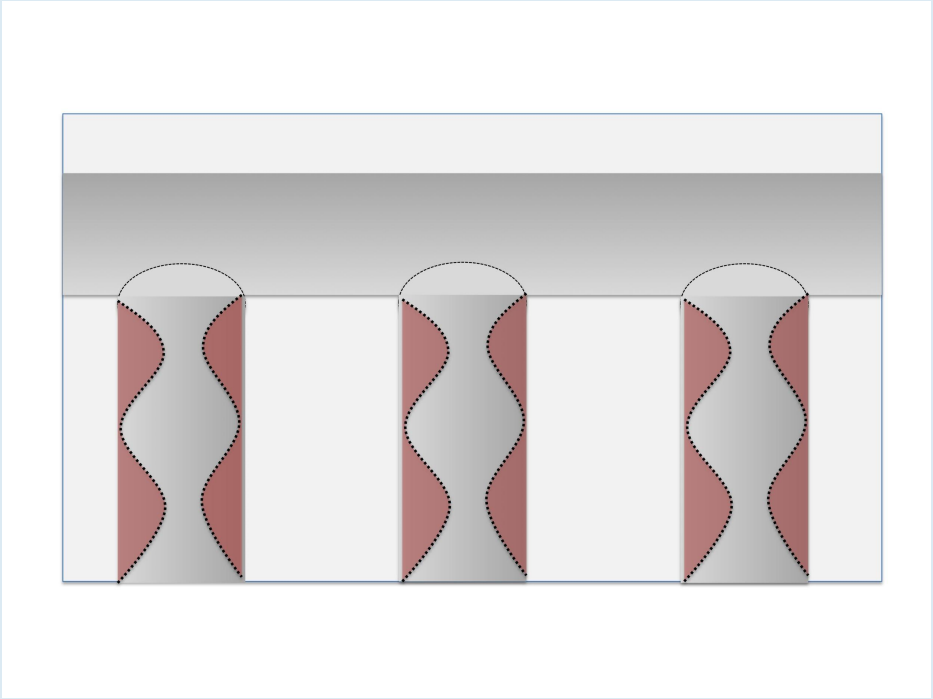
Customer Feedback

- spoke with/messaged previous customers with results/developments from **Scrum 1** (more comparison to existing products)
- **“Breathing patterns, sleep data is a nice feature but to add it to the monitor to jack up the price, no thanks! Unless my baby has sleep apnea or sleeping disorders or breathing problems, I won’t need it.”**
- for this Scrum and future Scrums, narrow the customer base(?) → neonatal care, medical research, etc.

CAD Mock-up



CAD Mock-up



Materials Research

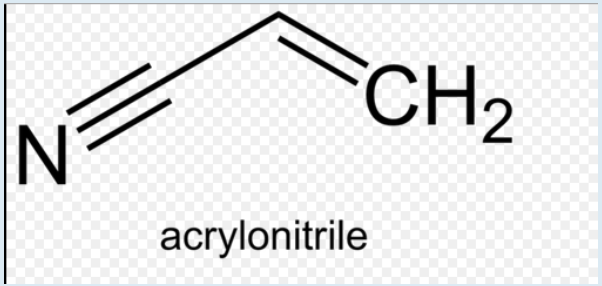
1.Try to quantify how many materials do we really need to build the component, as well as the cost.

2.Keep doing the research on suitable materials. For example, blend the different polymers; use computer software to analyze the materials from micro perspective.

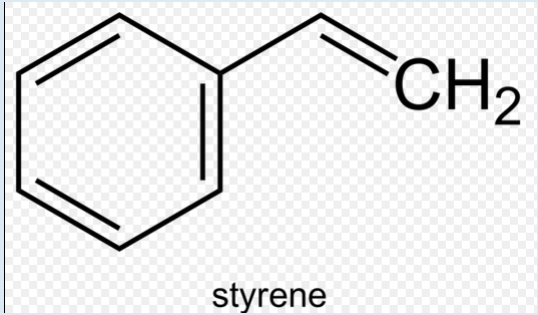
3.On scrum1, the material research was just for building the big parts; On scrum2, pay attention on the other things like painting, coating, adhesion and so on.

Materials Research

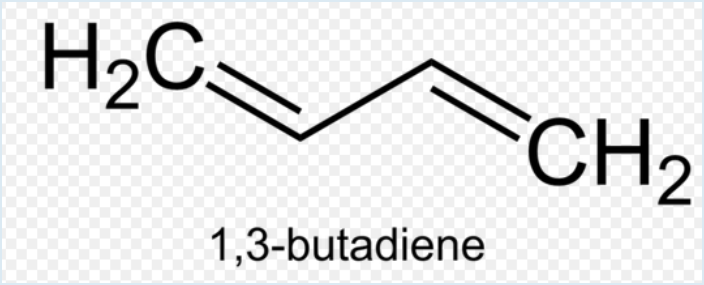
Example:ABS monomers



acrylonitrile



styrene



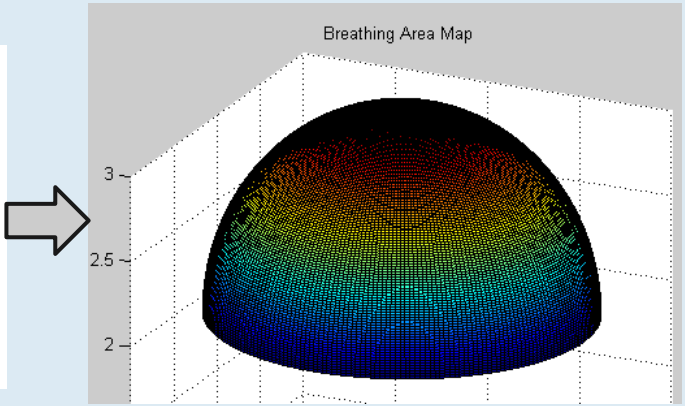
1,3-butadiene

Sensor Module

- Found a possible function in Kinect documentation (NuiTransformDepthImageToSkeleton), but was not able to correctly implement the function in the code
- Simulation of point-data usage through MATLAB (demo)

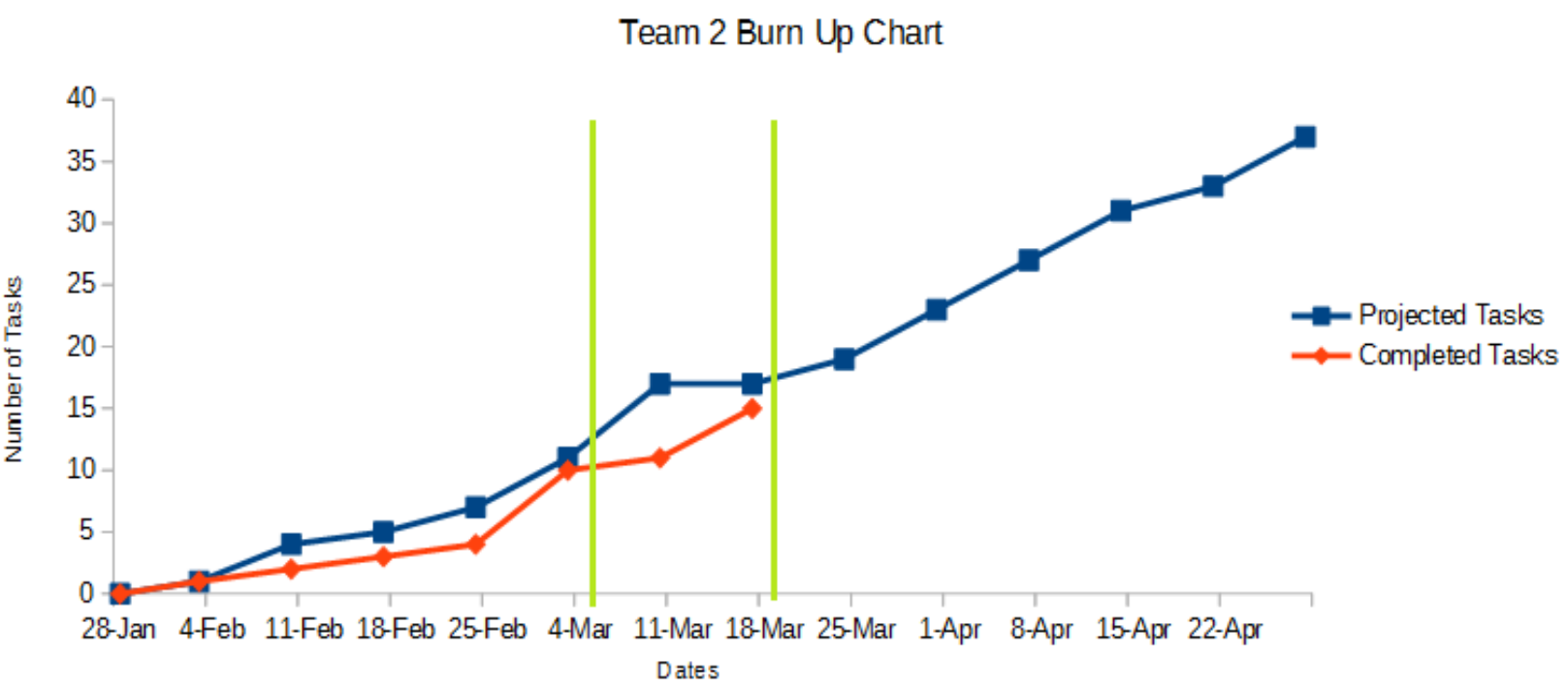
```
array =

    0.9626    0.7813    0.9462    0.2718    0.5198    0.3402    0.0797
    0.0876    0.3170    0.7701    0.6609    0.2568    0.0447    0.2925
    0.2557    0.4144    0.8213    0.2007    0.1599    0.4082    0.4166
    0.4126    0.0879    0.1148    0.6857    0.4217    0.3222    0.6998
    0.7039    0.3494    0.2033    0.1073    0.5587    0.3583    0.2291
    0.7480    0.1294    0.5926    0.4470    0.3007    0.0542    0.7990
    0.0374    0.3043    0.0107    0.1270    0.7356    0.7485    0.7608
```



Project Progress

Spring Break threw us off, hopefully make more progress in the next Scrum



Scrum 3 Goals

Member	Content Aspect	Tasks
Molly	Crib Module/CAD model	Work SolidWorks and iterate through 3D printed models
Gary	Crib Module/CAD model	Research flexible materials for ‘grip’ on crib slats, fixtures
Bruce	Materials Research	Try to use computer software to analyze the materials; Research of adhesion, painting, coating etc; Determine the quantity of materials.
Don	Breathing Sensor/Manufacturing	refine array data collecting method; research how to use point array data for meaningful interpretations
Jesson	Breathing Sensor/Smart App Capability	refine array data collecting method; switch from Kinect to MATLAB-based raw data collection? Start developing web based app to make the data accessible to parents