

Abstract: Can Smart EduTech play a role in teaching about food and nutrition in school? And can learning about Food and Sustainability become smarter? And can these approaches make valuable contributions to reaching the millennium SDG's? This presentation takes as a point of departure the experiences from the Foodscapelab and Gastronomarium projects where learning about food has been developed using the STEM principles as the foundation for learning about science, technology, engineering, and mathematics. The presentation includes examples of smart devices such as the Robofood. The Virtual Shopper, the VeggieMatchi and FoodDome.

Smart EduTech for teaching food and nutrition in school and citizen science settings.

Hands on demo of the RoboFood, the Smart ChiliBuddy, the Virtual Shopper and the FoodDome

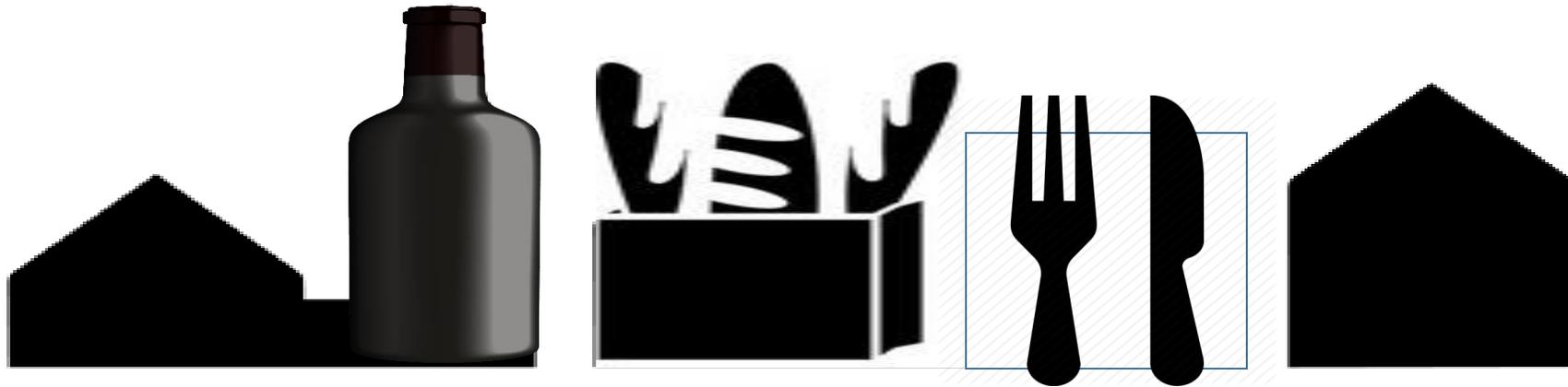
Bent Egberg Mikkelsen

**Dept of Learning & Philosophy,
Aalborg University**

GREEN RIO WORKSHOP

**Workshop on Smart learning about Food and Sustainability
Contributions to reaching the millennium SDG's**

City of Food



Who wouldn't like to be THE eating city?

EATING CITY
INTERNATIONAL PLATFORM
2010 - 2020

United Nations
Educational, Scientific and
Cultural Organization

ABOUT US



BETTER FOOD FOR MORE PEOPLE

COUNTRIES

PART

 **Ministry of Environment
and Food of Denmark**

Frontpage News Contact Press | The Ministry's websites

The Movement ▾

Inspiration ▾

World Food Summit ▾

Potluck ▾

Bite ▾

You are here: Better Food for More People > World Food Summit > Food Cities

Food Cities

Não é possível exibir esta imagem no momento.



**MILAN
URBAN
FOOD
POLICY
PACT**

Milan Urban Food Policy Pact
3rd Annual Gathering and Mayor Summit
Valencia, Spain
19-21 October 2017

BRIEF REPORT

By hosting this Annual Gathering Valencia managed
to combine the global dimension with local actions.
Joan Ribó, Mayor of Valencia, Hosting City 2017

and momentum



Street
Food
Market
BOX TOWN

**AAL
BORG
GASTRO
TARIUM**

Cafe
Workshops
Market
Takeouts
Vegetables

Springeren Maritimt Oplevelsescenter
Vestre Fjordparken/Enluftsbad
Marina
Fjordparken
Kulturbro
Bypark
Cloud City
Stigsborg Havn
Havnebad
Utzon Center Musikken
Kunsten

The potentials of
Gastronarium –
experience center and
mobile experience

- How can we create
an experience and
learning center?
 - Stationary
experience center
 - Mobile experience
center



If Food & Sustainability is our challenge how can then technology assist us?



What problem do we address?

Life
science
approach

Everyday
life
approach



The Sapere method

a conceptual foundation



L'apprentissage du goût...



La méthode Sapere

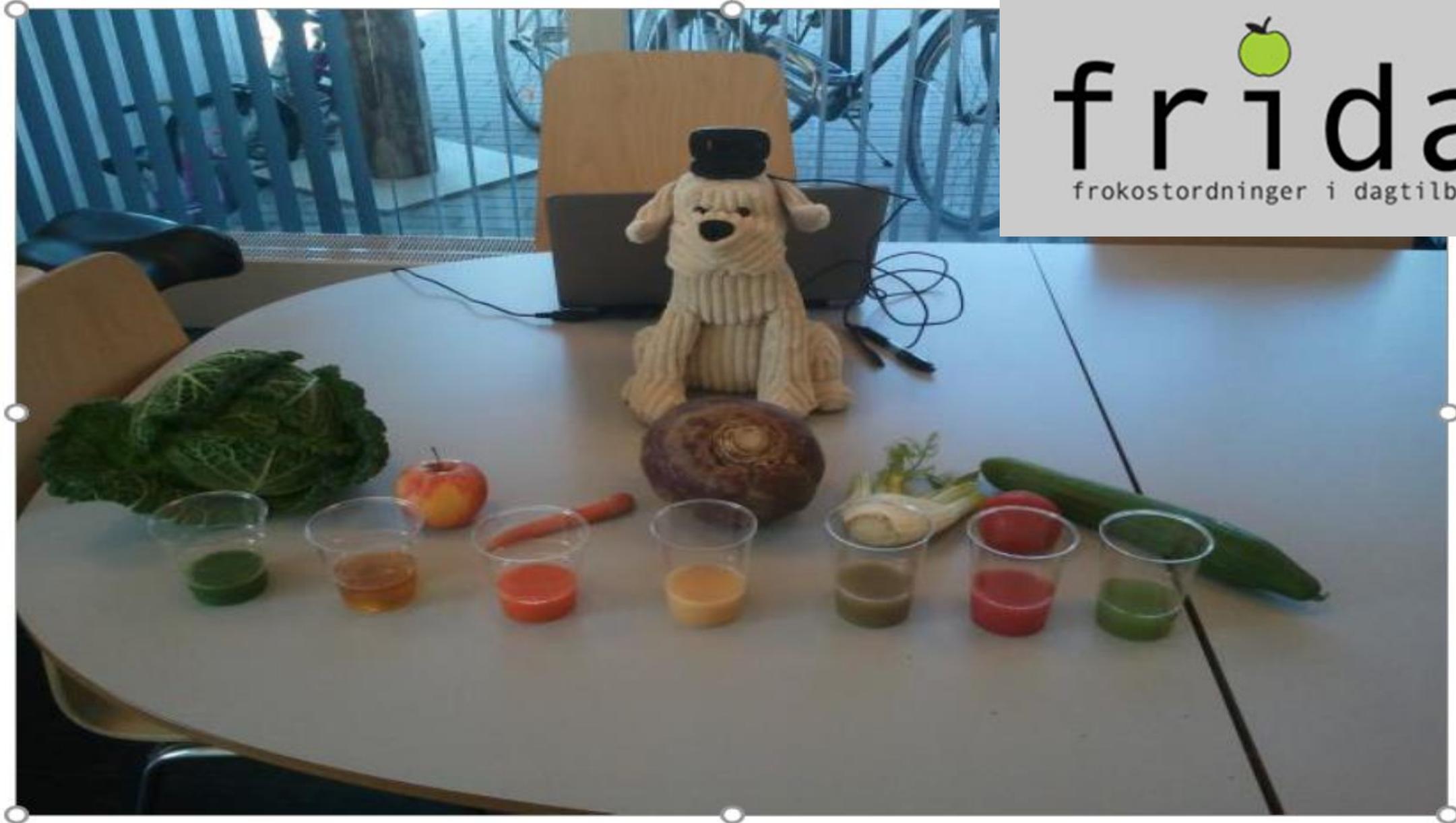
Sapere est né de la conviction que l'éducation au goût favorise la santé.

Nous pensons qu'éveiller des jeunes enfants à la connaissance et au plaisir d'une alimentation variée et équilibrée, c'est leur assurer les bases d'un équilibre alimentaire durable. Pour cela, Sapere a choisi d'intervenir dans le cadre scolaire et périscolaire.



Jacques Puisais.
Le classe du gout

Picture 2: Setup of measurement of willingness-to-try and liking



The picture shows the seven juices in transparent glasses in the front behind them

What we do and what we dont do

Rational choice model

Plan everthing in detail

Ask for a budget to cover all

Get all teh background info you need

Get in your project room

Close the door

Come out once you are done

Agile plan as U go

Make a transdisciplinary group

Write a pitch

Get some seed money

Take advantage of the knowledge triangle and PBL

Keep the door open

Create a fast prototype

STEM principles for learning about *science, technology, engineering, and mathematics.*

- Originates from the National Science Foundation, from the 1990s,
- often used in relation to graduate and post-graduate courses
- seldom concerned with elementary or secondary school settings.
- Potentials of applying in earlier ages unexplored (Bybee, 2010, (Schneller, 2015, Wu-Rorrer, 2017).
- Learn how to cope with a problem on the individual, social and global levels (Bybee, 2010).

Foodscape PBL challenge #1

Problem

Need for more sustainable urban food systems

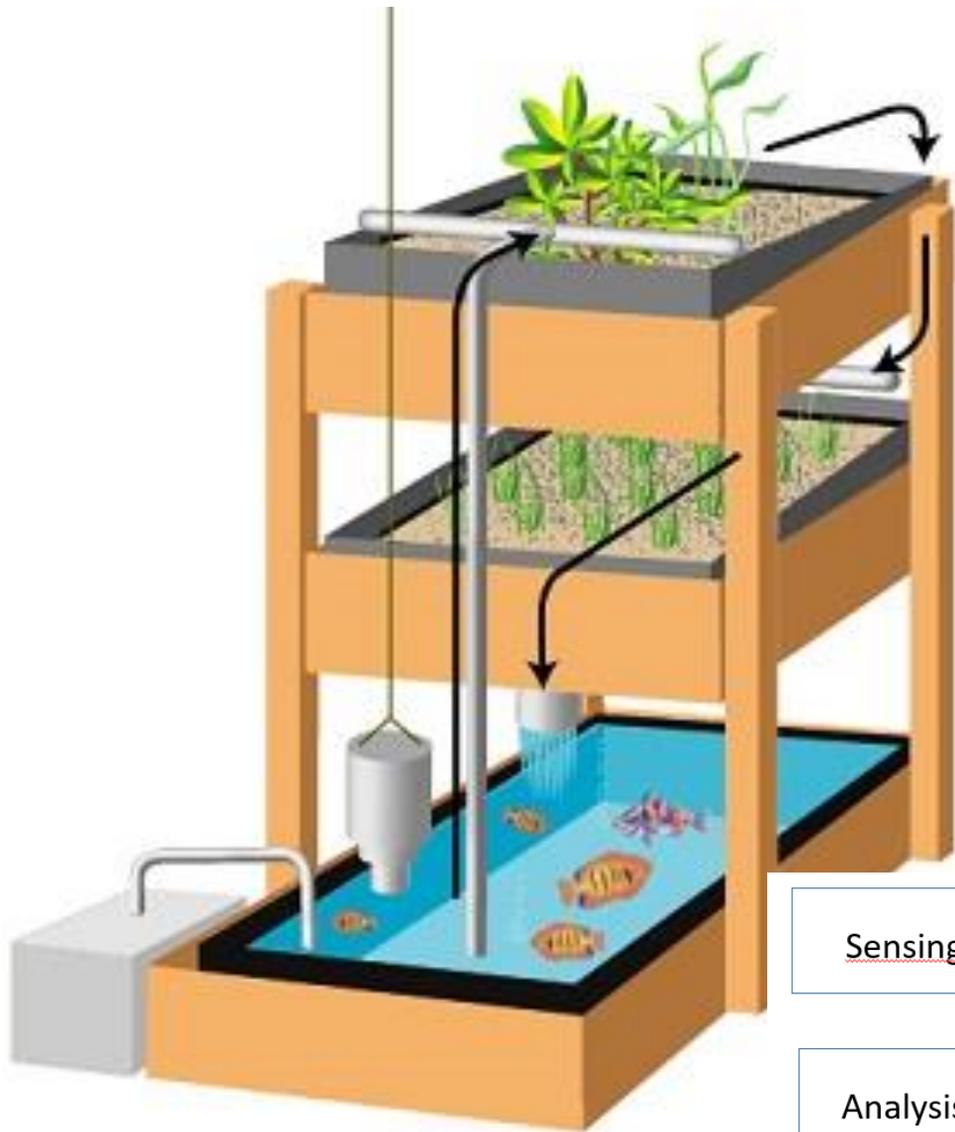
Technology

Smart aquaponics

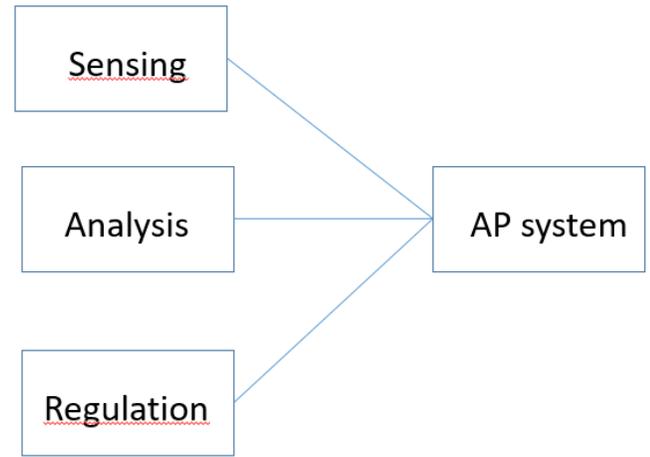
Learning goal

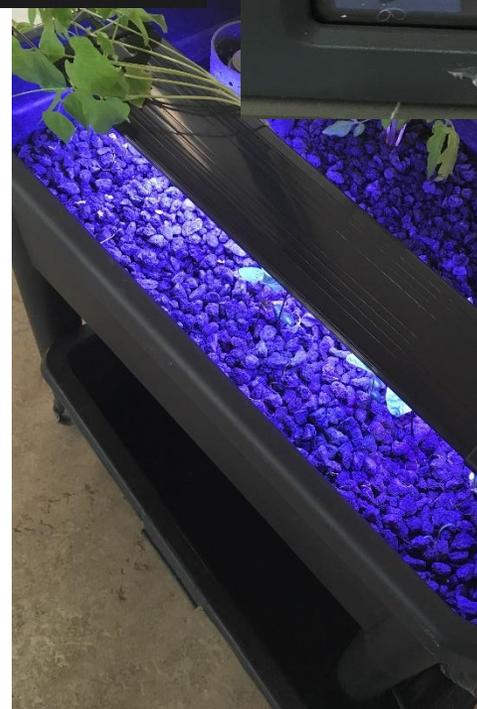
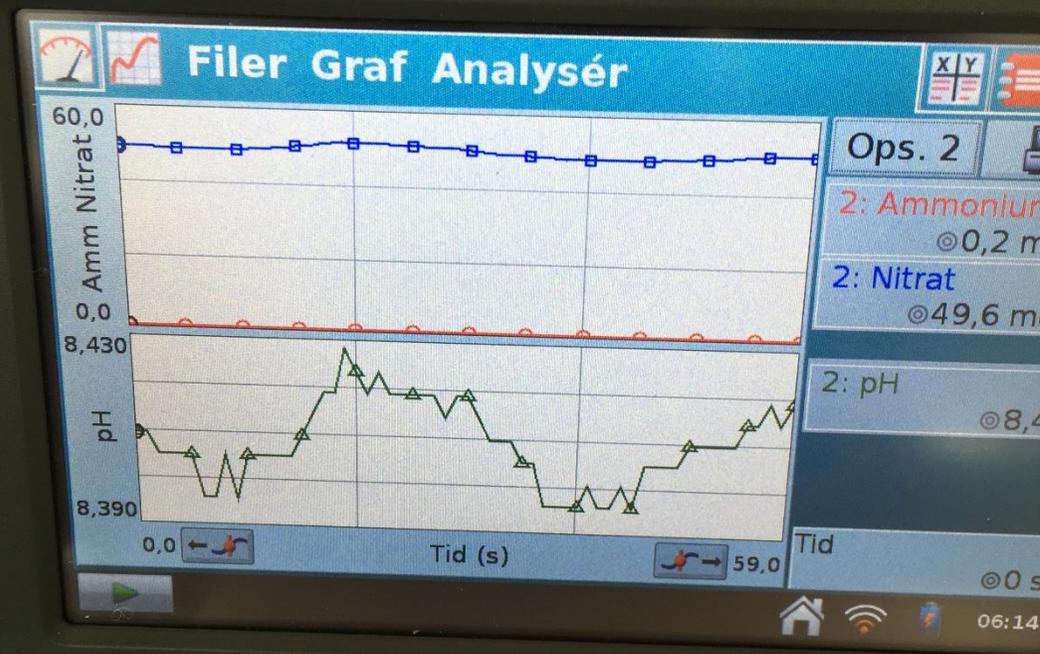
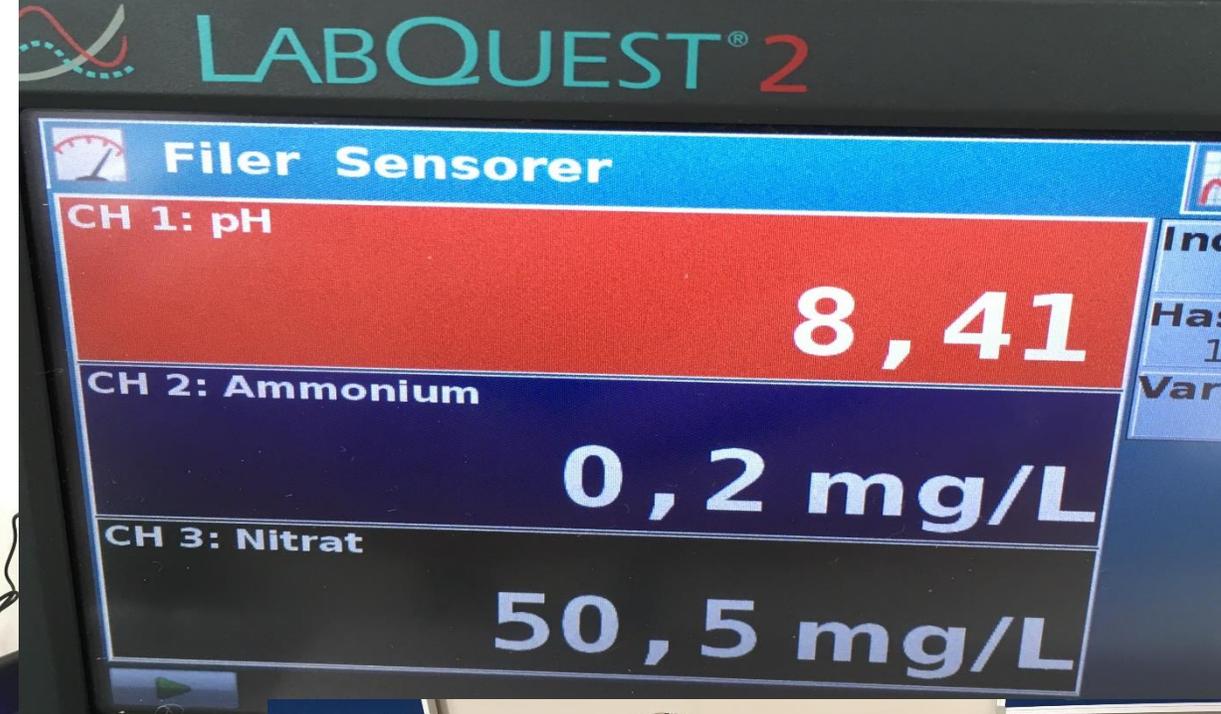
To know about circular nutrient systems and smart data acquisition





Biological
Selfregulation &
Autopoesis in a
low cost Smart
Urban Farming
table top unit





Foodscape PBL challenge #2

Problem

Unhealthy eating and obesity due to obesogenic environments

Technology

Smart edu Robotics

Learning goal

To know about shop design and how robotics can be used in classroom

Use only the turquoise blocks

Make sure to end with a ScanTheFood block

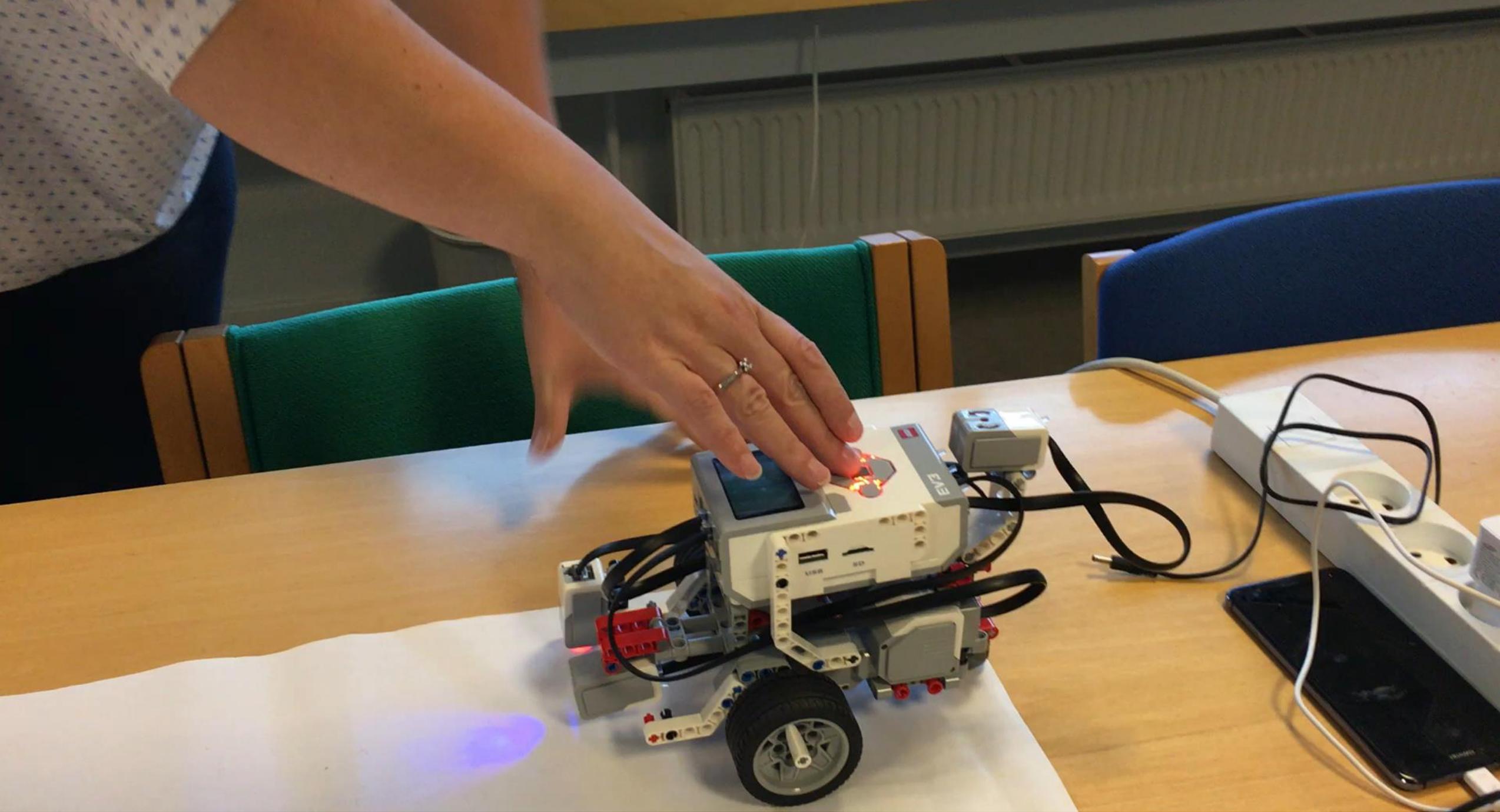


RoboFood



Advanced Training course: FOOD - Small devices & Big data.
Aalborg University Copenhagen August 15 -17, 2018





Foodscape PBL challenge #3

Problem

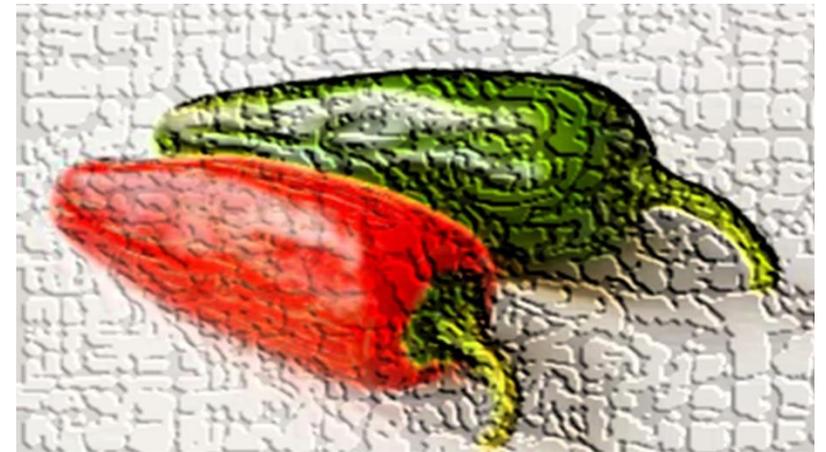
Lack of knowledge about the sensory properties about food

Technology

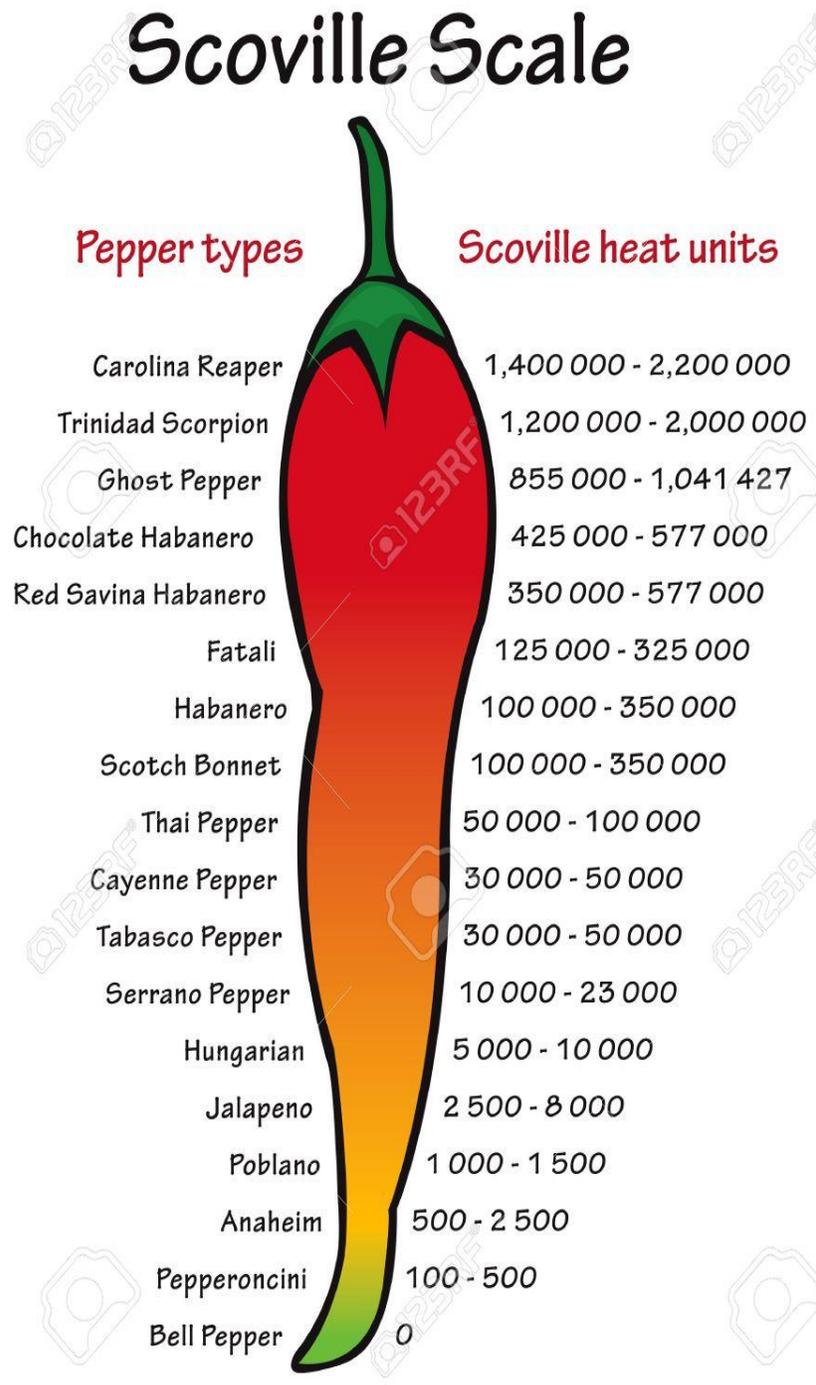
Smart bio sensorics

Learning goal

To know about the active bio compounds in plant foods and how biosignals can be measured the smart way



- Habanero, Jalapeno or Trinidad Scorpion
- Scoville scale or BioSensorics



The Chili-O-Meter



Hannah Hoffmann
Supervisor, Bent Egberg Mikkelsen
Aalborg University Copenhagen

Foodscape PBL challenge #4

Problem

Kids dont know basic food commodities

Technology

Low cost VR technology based on the Samsung Gear

Learning goal

To increase vocabulary about basic plant foods and increase familiarity with VR as a learning tool

Bite 30.08 –
31.08.2018
Copenhagen

Taste & digital – exploring food literacy training the smart way

Thursday, August 30, 2018, 10:00 AM –
Friday, August 31, 2018, 6:00 PM



DietVersity4U



Center Local Play Pause Stop Collab Account Layers Layout

- Hierarchy
- Create
- main*
 - Main Camera
 - Shelf 1
 - Shelf 2
 - Shelf 3
 - Shelf 4
 - Shelf 5
 - Shelf 6
 - Floor
 - Floor
 - Floor
 - Floor
 - Floor
 - Lights
 - Products
 - Canvas
 - EventSystem
 - Scripts
 - canvas
 - potato-canvas
 - carrot-canvas
 - tomato-canvas
 - cucumber-canvas
 - lemon-canvas
 - coconut-canvas
 - apple-canvas
 - banana-canvas

Inspector Services Lighting

Culling Mask: Everything

Projection: Perspective

Field of View: 60

Clipping Planes: Near 0.3, Far 1000

Viewport Rect: X 0, Y 0, W 1, H 1

Depth: -1

Rendering Path: Use Graphics Settings

Target Texture: None (Render Text)

Occlusion Culling:

Allow HDR:

Allow MSA:

Stereo Separation: 0.022

Stereo Convergence: 10

Target Eye: Both

GUI Layer (Deprecated)

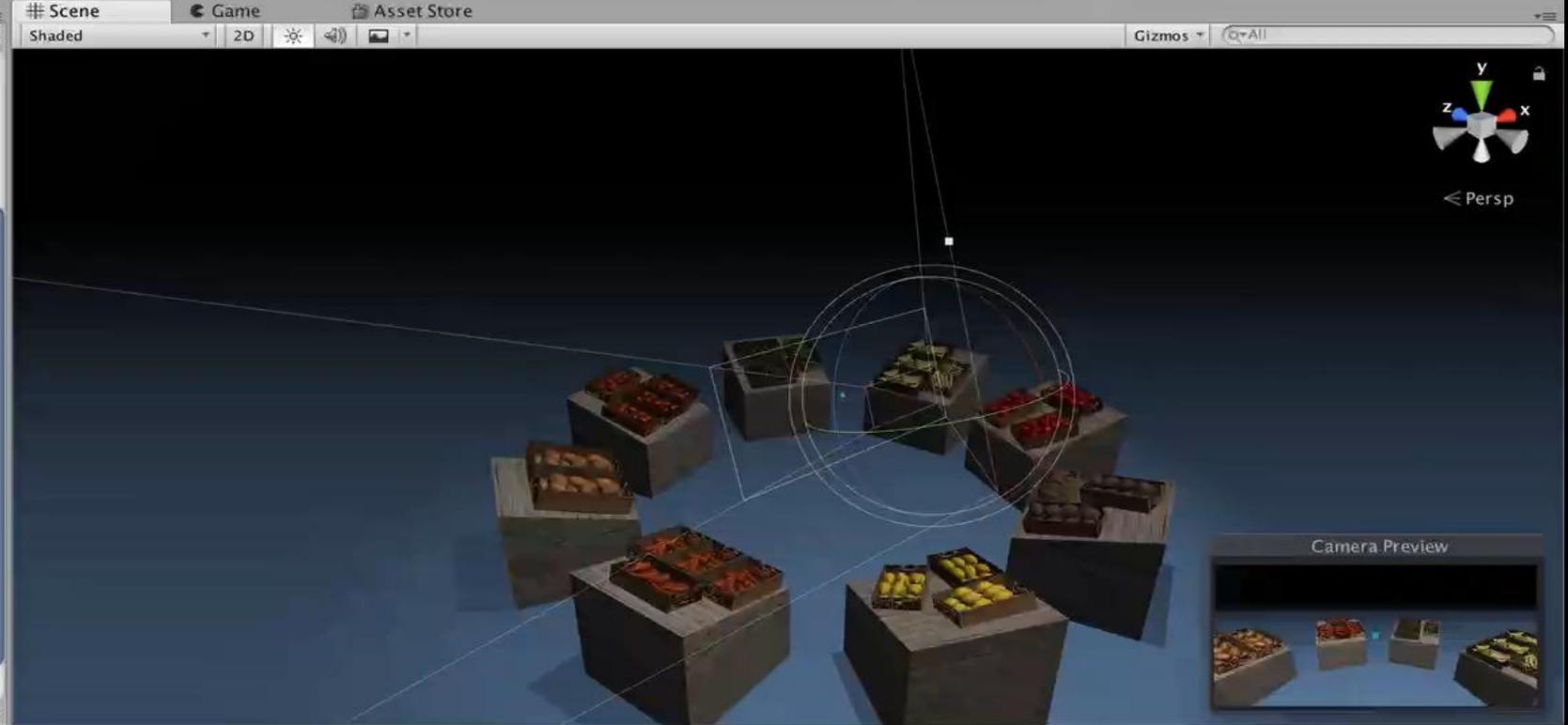
Flare Layer

Audio Listener

Example Class (Script)

Script: ExampleClass

⚠ This component is part of the legacy UI system and will be removed in a future release.



Project Console

Assets

Models

Floor

Assets

ExampleClass Models Plugins Scenes Scripts

Assets/Scripts/raycast.cs(19,17): warning CS0414: The private field 'raycast.askingAbout' is assigned but its value is never used



Advanced Training course: FOOD - Small devices & Big data.
Aalborg University Copenhagen August 15 -17, 2016

Foodscape PBL challenge #5

Problem

Lack of knowledge about sustainable diets

Technology

Collective "surround sight" video game tech

Learning goal

To teach basic knowledge about plant based diets using social learning



**The
concept of
a dome**

**• Using 360
degree
camera,
project the
game in the
Food Dome**

The game for Food Dome

Play the Broccoli



Foodscape PBL challenge #6

Problem

Low familiarity with plant based commodities

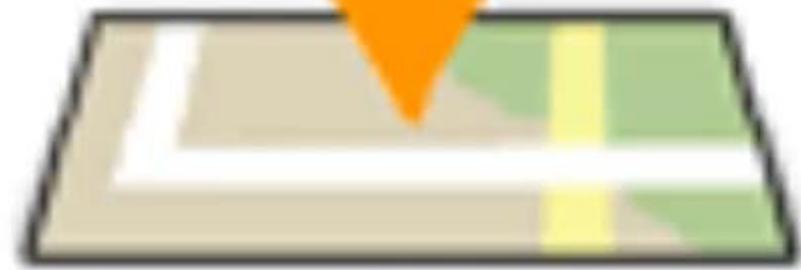
Technology

Augmented reality technology using kids own mobile

Learning goal

Basic nutritional needs

An educational
application



VeggiMatchi

Effects of design of the VeggiMatchi game

First
Slide

