MARKER TRACKING & AUGMENTED REALITY

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Outline

- Introduction
- Fiducial Marker Tracking
  - Basics
  - VVVV- Code Example
  - Examples
- Augmented Reality

Introduction

- Marker Tracking and ARTK-Tracking are fast and easy ways to build prototypes.

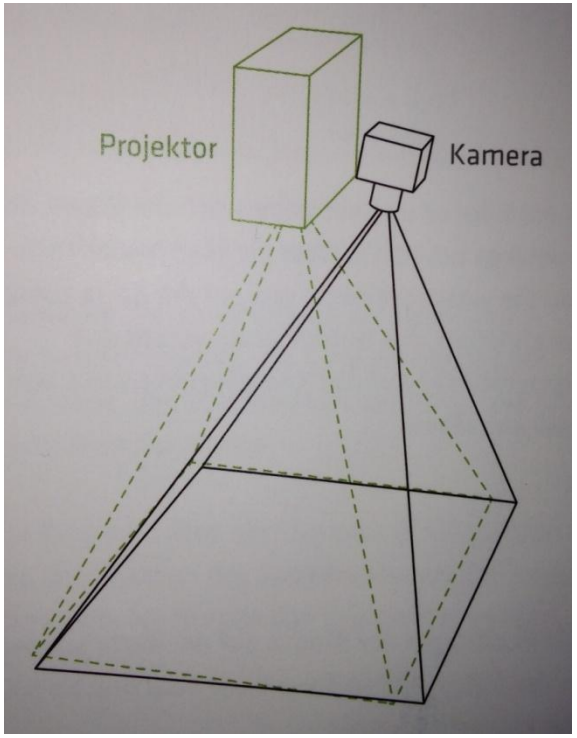
Fiducial Marker Tracking

- Individual ID
- X-position
- Y-position
- Rotation

fiducial id 127

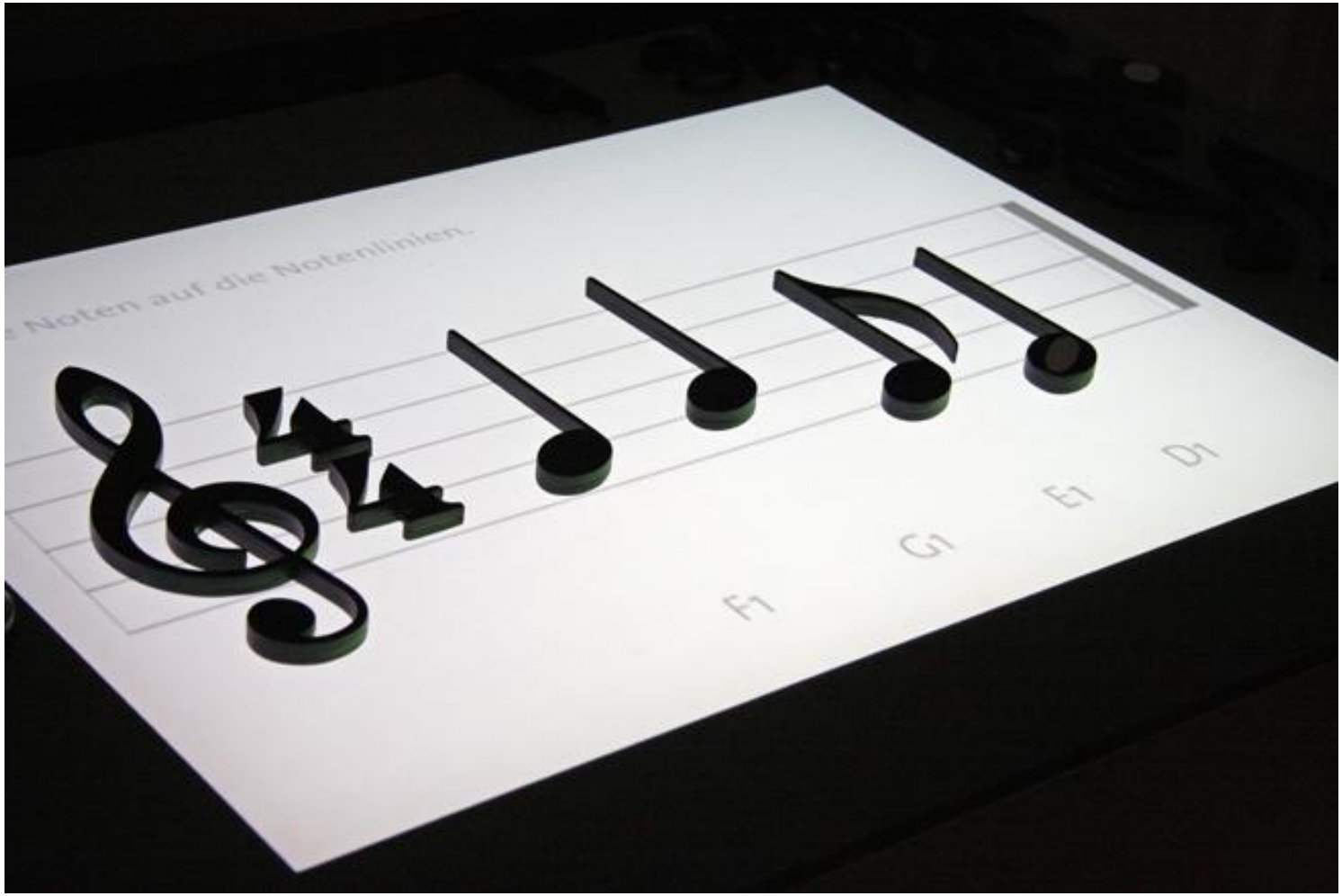
Camera Positioning

- Camera field of view and Beamer-Projection should always be congruent



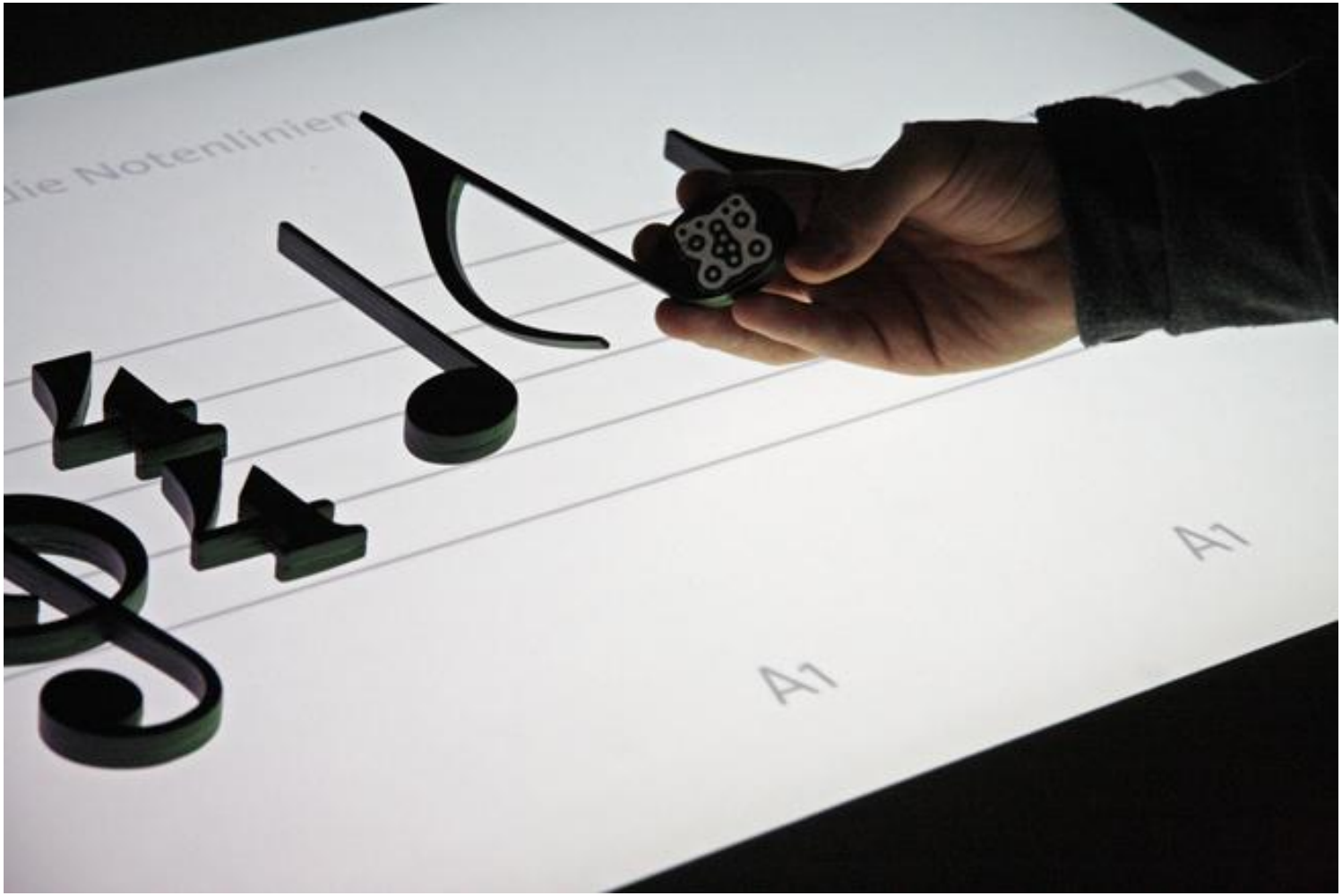
VVVV- Code Example

Example: Noteput



http://vimeo.com/8308494

Example: Noteput



Example: Noteput

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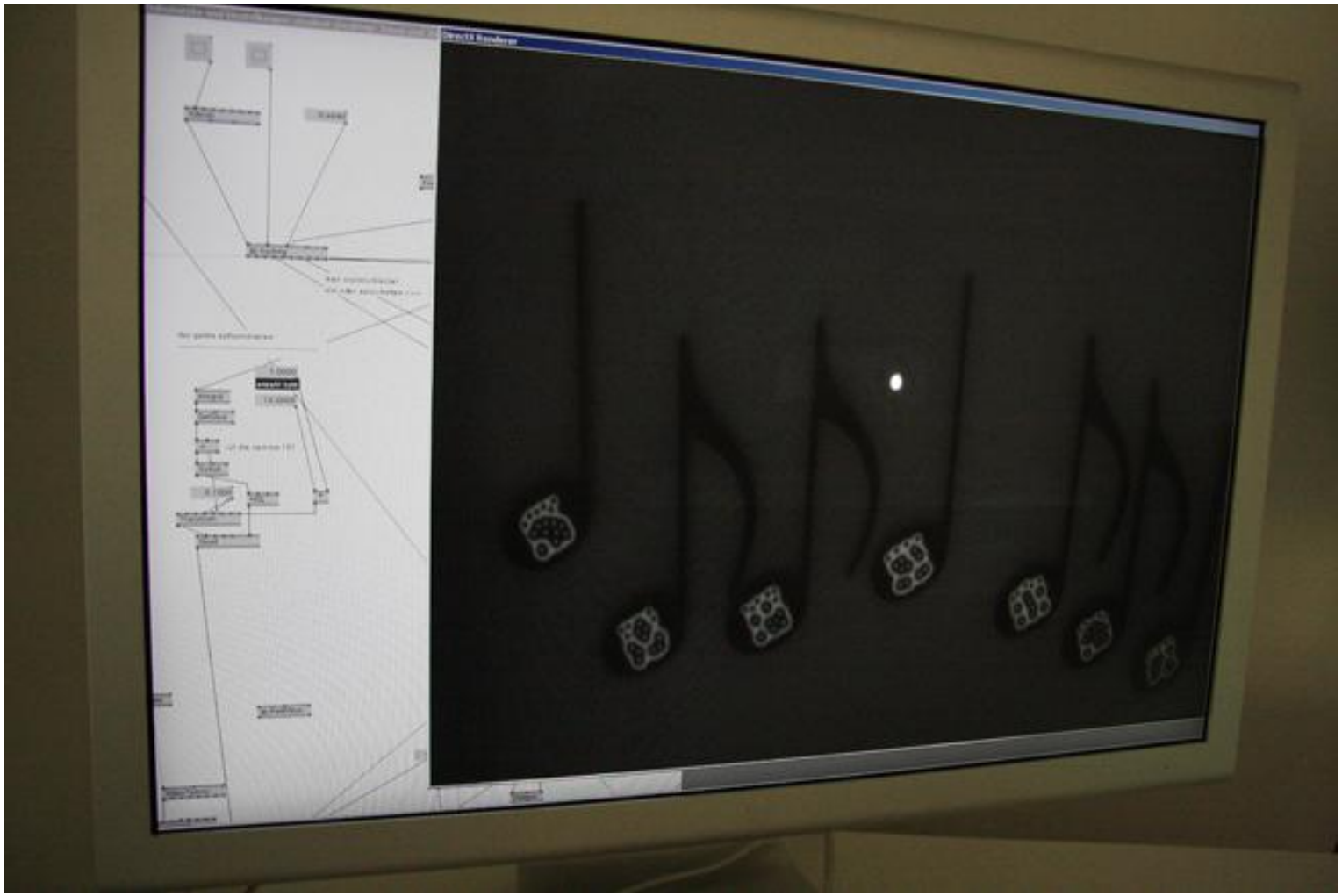

Example: Hair-Trimmer

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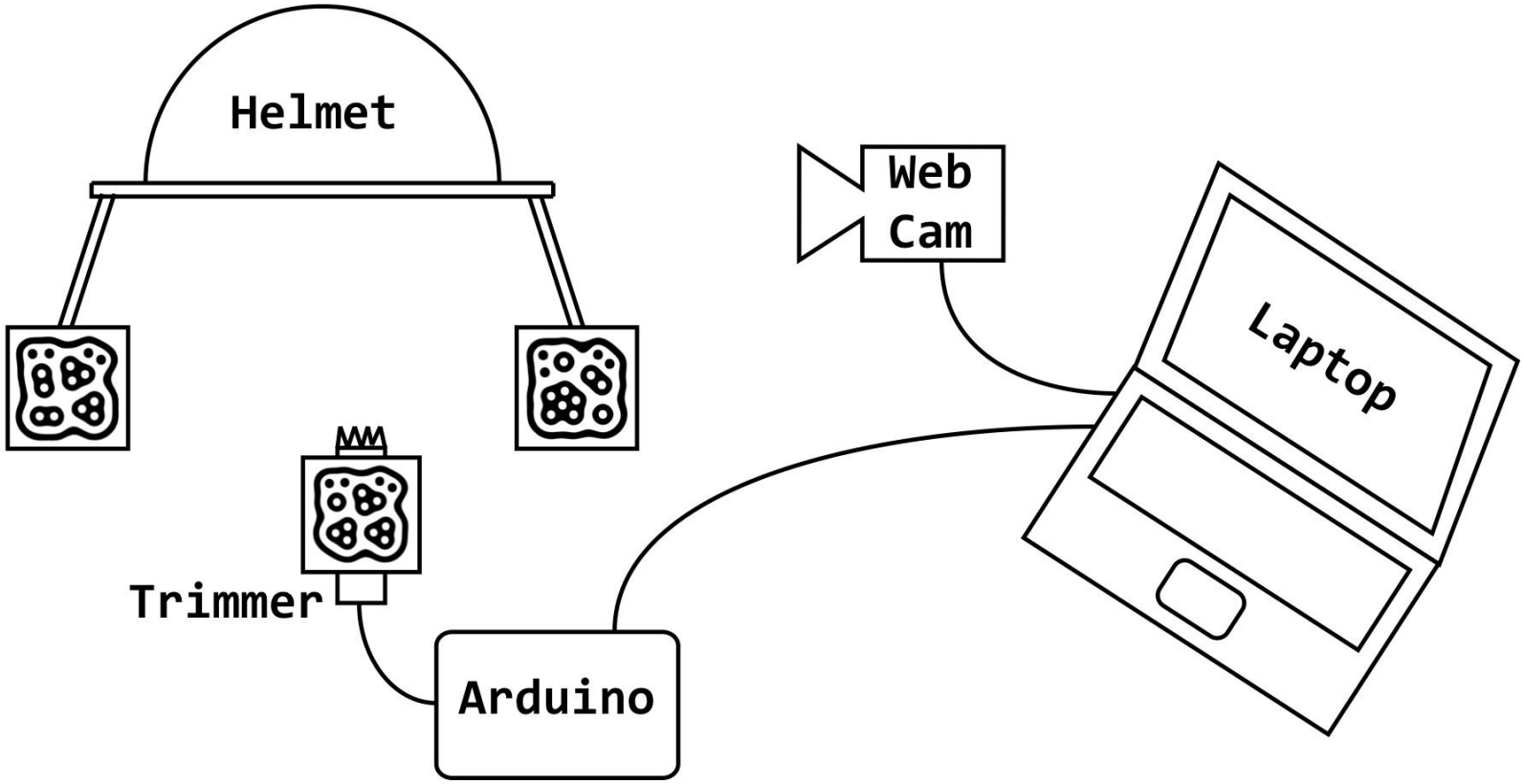


http://www.youtube.com/watch?v=usCfRE0miKw

Augmented Reality (AR)

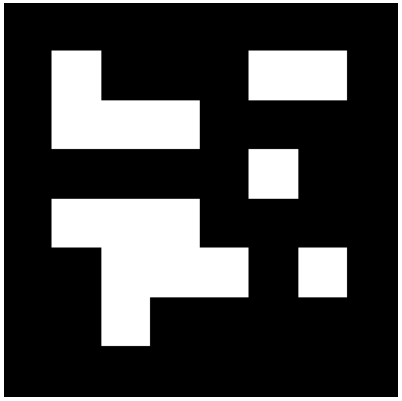
What is AR?

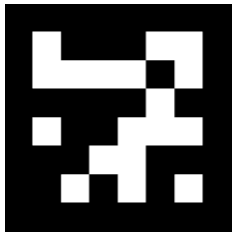
view world with augmented elements.

elements: vision/sound

AR Tracker Markers

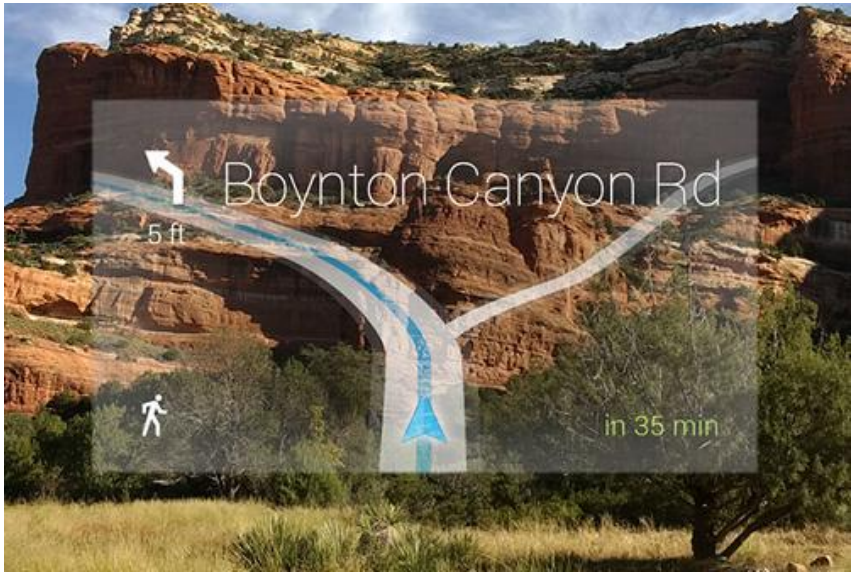
- Similar to Fiducial Tracking
  - Unique ID
  - X Value
  - Y Value
  - Rotation
  - Z Value – for depth
  - Determine place to draw object(s)
  - In 3d place.





Augmented Reality and Tracking

- View of the world with augmented elements
- Marker – a unique code to help orientation



- Google Glass GPS

Augmented Reality

- How it works
  - Interest points detected
  - Depth, size, orientation of object is calculated
  - Object is drawn

AR related video

- AR Marker Tracking
- https://www.youtube.com/watch?v=HN2DMqpdIUU

- AR
- https://www.youtube.com/watch?v=vyTvlufrdPE

Application in Real Life

- Education
  - Allowing ‘virtual x-ray‘

- Sport
  - Superimposing distance

Questions?

Thanks