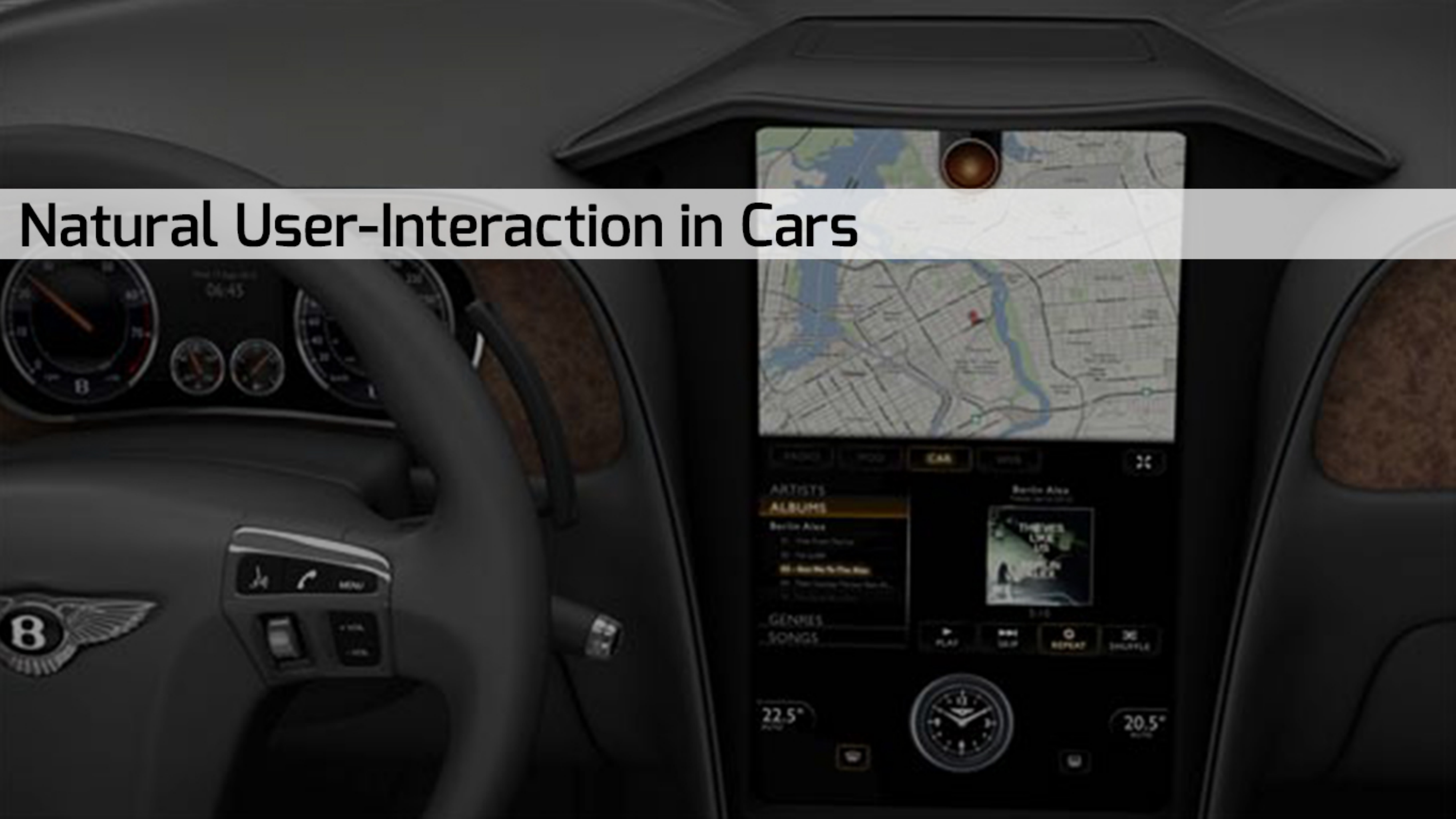


Natural User-Interaction in Cars



- Develop a natural user-interface for the users of a Car

- *By Using:*

- Gesture Recognition
- Image Processing
- Voice Recognition

FEATURE

- Gesture Recognition
 - Image Processing
 - Voice Recognition
- Kinect or
- Camera
- Microphone
-
- The diagram consists of three horizontal lines connecting features to hardware. The first line connects 'Gesture Recognition' to 'Kinect or'. The second line connects 'Image Processing' to 'Camera'. The third line connects 'Voice Recognition' to 'Microphone'. Additionally, a diagonal line connects 'Gesture Recognition' to 'Camera'.

HARDWARE

VVVV

A Multi Purpose Toolkit

■ VVVV

- Open Source Platform
- Based On Delphi
- Developed for designing Interactive Installations
- Provides A Graphical Programming Interface
- Plugins Developed in .NET or C#
- Developed by Meso ,*Frankfurt, Germany*

VVV | Advantages

Focus of the program

- Real-time video synthesis
- Programming large media environments with physical interfaces
- Real-time motion graphics
- Audio and Video

■ VVV | Advantages

- Extremely efficient with 3D Systems
- Possibility to write our own Shaders
- Boygrouping
 - | *Where one computer controls a number of slave computers to operate in parallel, with all programming and editing is done on the master computer.*
- Spreads
 - | *One dimension array of values*

VVV | *Advantages*

- Ability to integrate Bullet Physics Engine
- Ability To Integrate OpenCV
- Ability to Integrate OpenNI
- Built in Audio processing Engine
- Ability to integrate Microsoft Speech API

■ VVV | Advantages

- Easy and Quick Interfacing with:

- Kinect and other PrimeSensor based devices*

- Video Camera and WebCam*

- Other Hardware Interface Devices*

■ VVVV | *Dis-Advantages*

- 3d Rendering Based on DirectX API so only suitable for Windows
- Not as flexible as the object oriented languages
- Intended to be a Rapid Prototyping Software
- VVVV calculates the entire patch each frame so CPU intensive