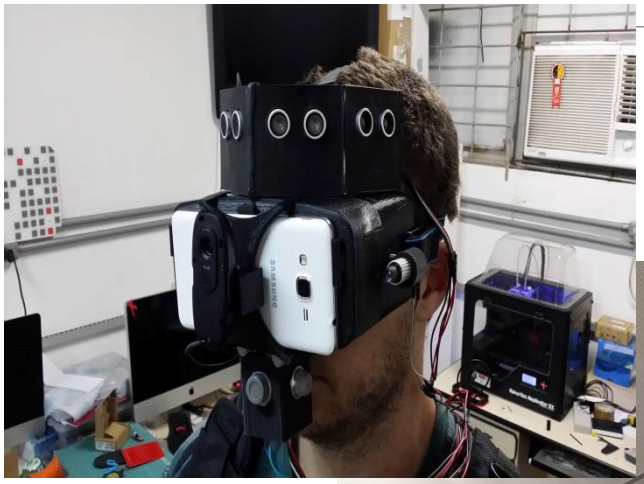
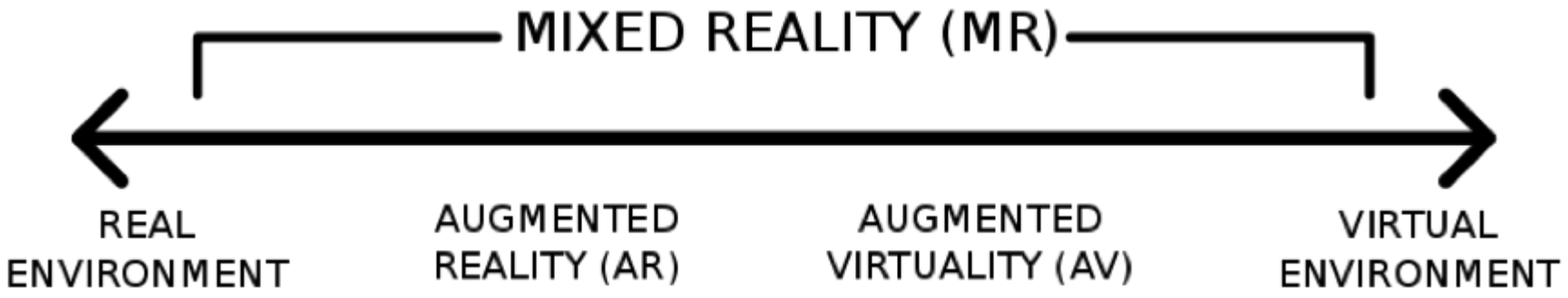
Augmented Reality (AR) and Virtual Reality (VR)

SAUL DELABRIDA

HMD – Head Mounted Display



Mixed Reality (MR)

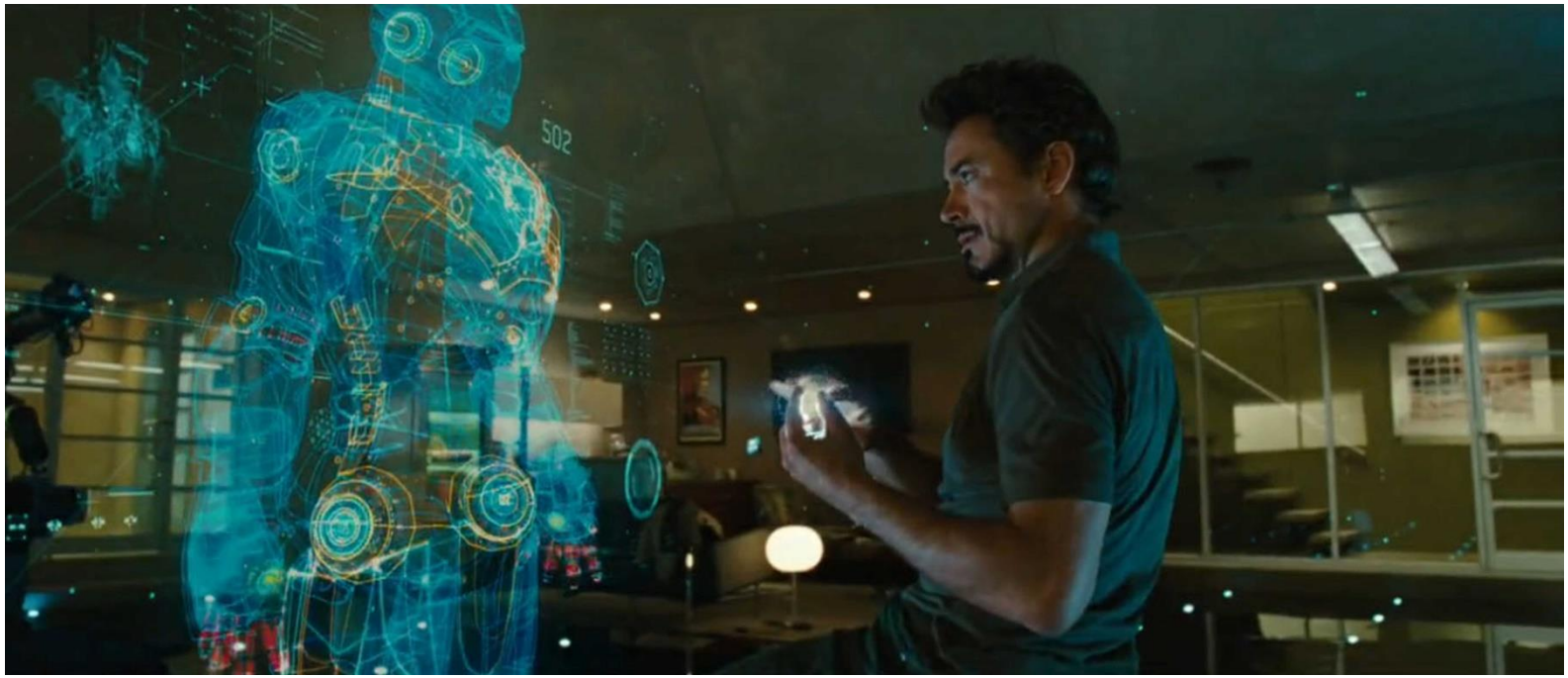


Mixed Reality (MR)

Real Environment

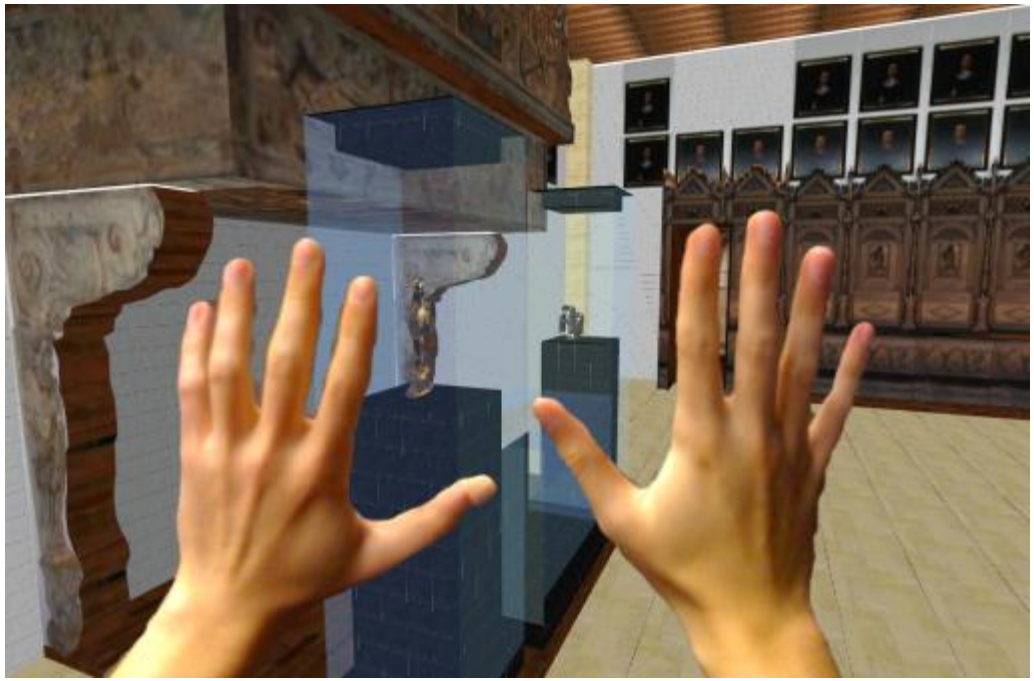
Mixed Reality (MR)

Augmented Reality -



Mixed Reality (MR)

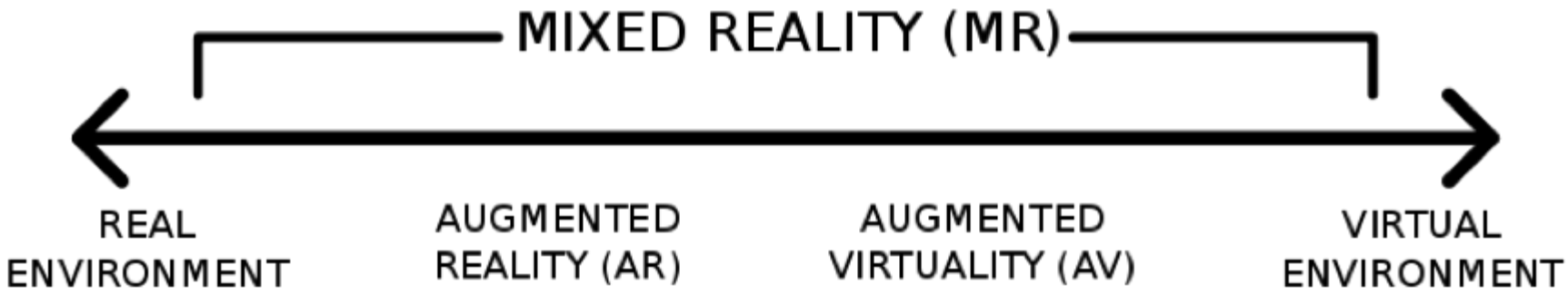
Augmented Virtuality



Mixed Reality (MR)

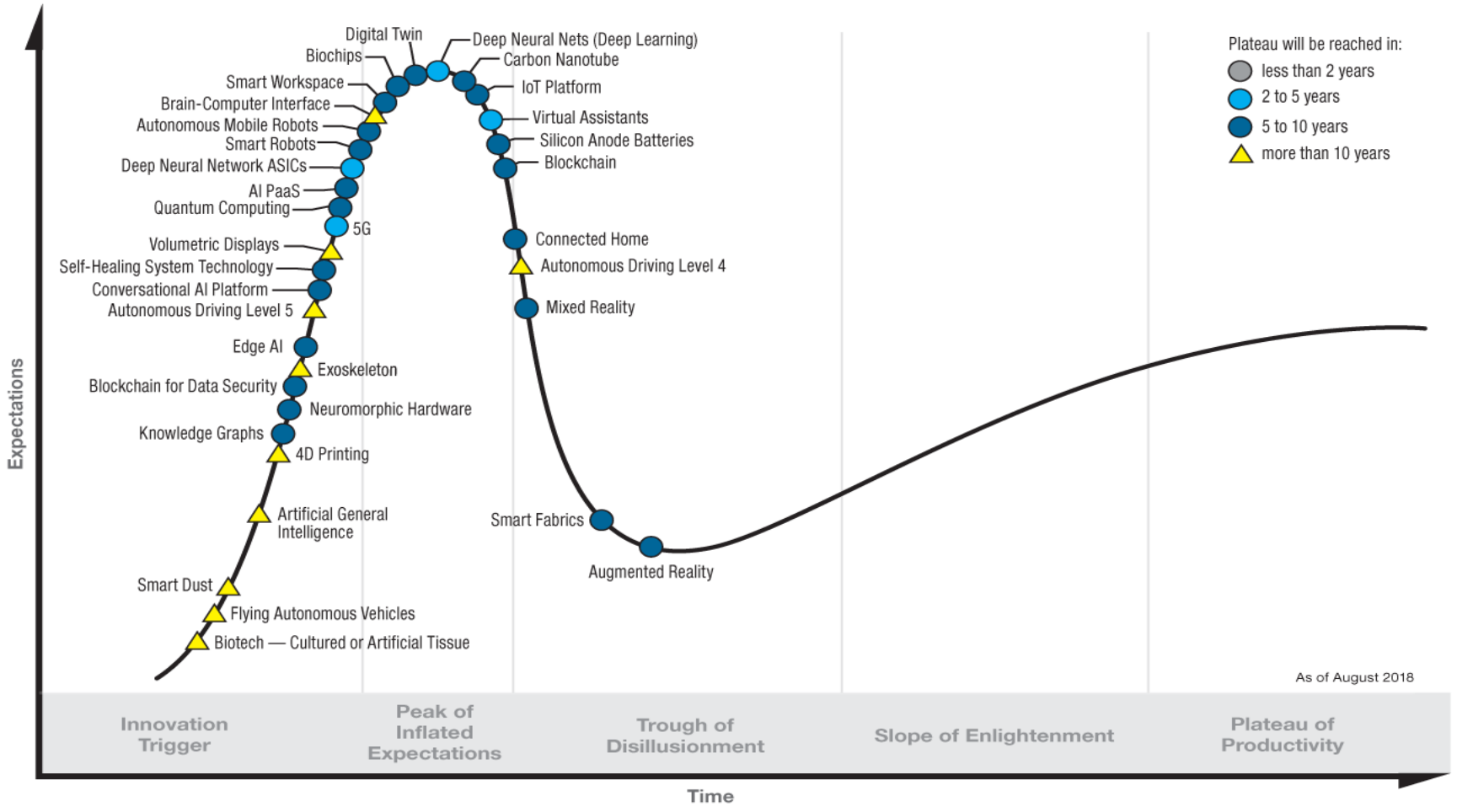
Virtual Reality

Mixed Reality (MR)



Those concepts are not bound by wearable, but wearable can provide us those experiences

Hype Cycle for Emerging Technologies, 2018



gartner.com/SmarterWithGartner

Source: Gartner (August 2018)

Gartner

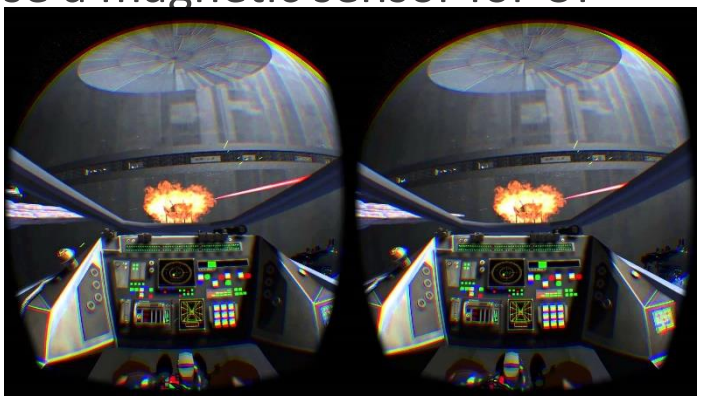
VR Devices

Google Cardboard

Cheap to start

API and SDK is compatible with most available devices

It use a magnetic sensor for UI



https://www.youtube.com/watch?v=ZyJw5Dg4dZ4

Oculus Rift

Can demands a PC for data processing, although we can find mobile extensions

Mature API for development of main commercial platforms such as Unreal and Unity

Motion Track

- Example (VIVE)

https://www.youtube.com/watch?v=Khoer5DpQk

HTC VIVE

Solution similar to Oculus Rift

A discussion which is better between HTC VIVE and Oculus Rift is similar to XBox and PSx

Many accessories available

HTC VIVE PRO promotion video

https://www.youtube.com/watch?v=DPMJDXmYwiY&feature=youtu.be

PlayStation VR

Works connected to PS4

Lower quality compared to others

Cheapest compared to others

Google Daydream

Launched on 2016 as a more professional platform

Works with high resolution (and expensive) smartphones

Standalone
Lenovo Mirage Solo

Samsung Gear VR

Based on Oculus Platform

Data processing is in smartphone

Works only with Samsung’s devices

Become an expensive alternative

Non Wearable VR

Advantages Wearable VR

Good choice for immersive experiences

Cheap and safety way for training

Useful for psychological treatment

A new alternative for education

Useful for human behavior studies

Easy to develop

Disadvantages Wearable VR

People felt weakness and malaise after the long time experiencing

Best current players 3D experience are limited to cables

More non-invasive way to tracking

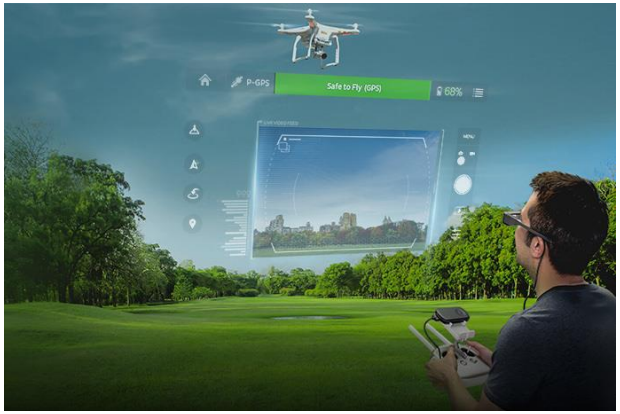
AR Devices

Technologies for Industry 4.0 and HMI

Microsoft Hololens

- Depth sensing

Epson Moverio



Daqri

AR non-wearable

How to Program?

Games Engines

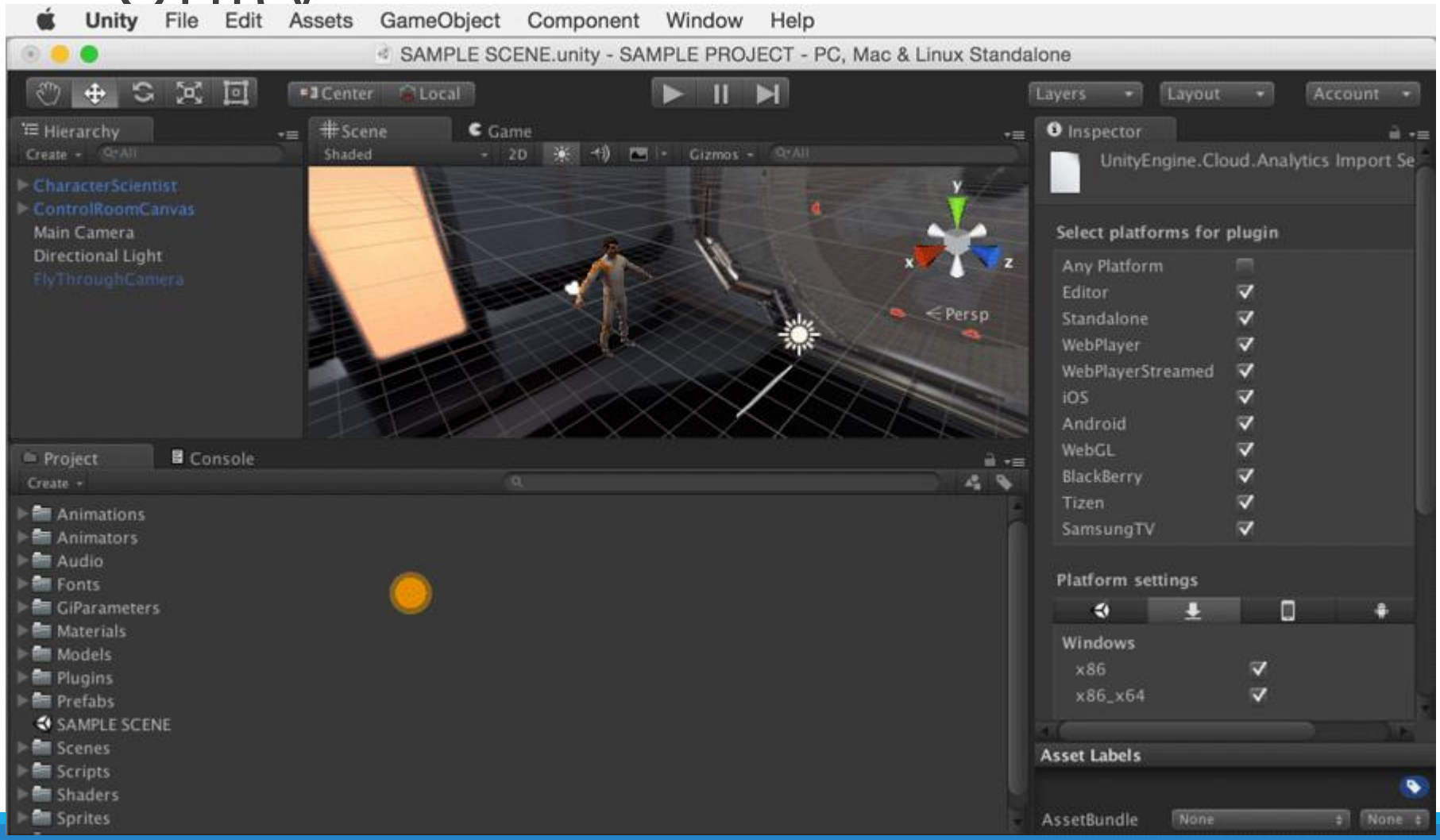
Unity (Cross Platform)

Unreal

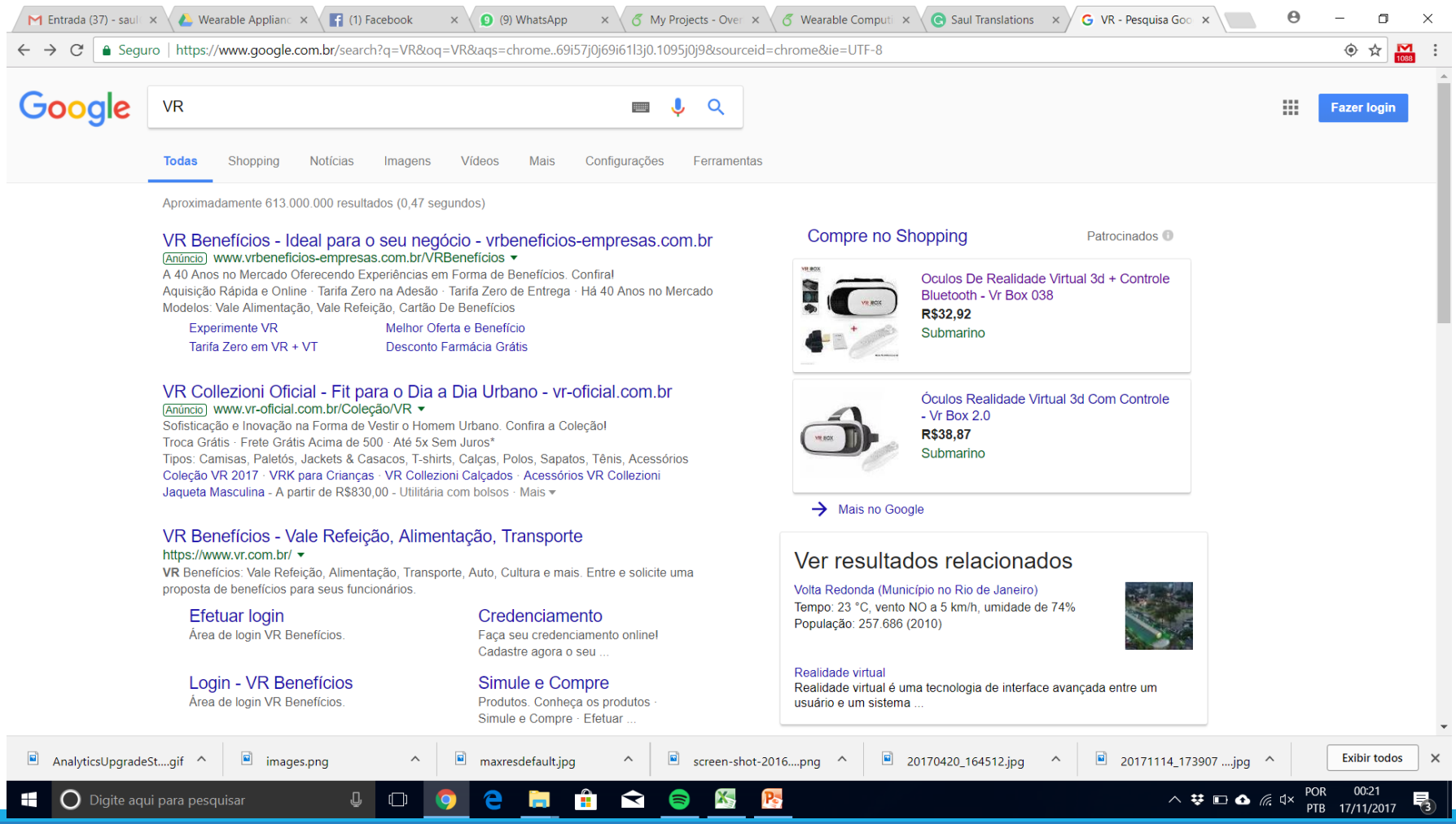
Java (Android)

C++

Unity


Unity File Edit Assets GameObject Component Window Help
SAMPLE SCENE.unity - SAMPLE PROJECT - PC, Mac & Linux Standalone
Center Local
Layers Layout Account
Hierarchy
Create
CharacterScientist
ControlRoomCanvas
Main Camera
Directional Light
FlyThroughCamera
Scene
Game
Shaded
2D
Gizmos
Persp
Inspector
UnityEngine.Cloud.Analytics Import Se
Select platforms for plugin
Any Platform
Editor
Standalone
WebPlayer
WebPlayerStreamed
iOS
Android
WebGL
BlackBerry
Tizen
SamsungTV
Platform settings
Windows
x86
x86_x64
Asset Labels
AssetBundle
None
None
Project
Console
Create
Animations
Animators
Audio
Fonts
GiParameters
Materials
Models
Plugins
Prefabs
SAMPLE SCENE
Scenes
Scripts
Shaders
Sprites

Device


Entrada (37) - saul
Wearable Applianc
(1) Facebook
(9) WhatsApp
My Projects - Over
Wearable Computi
Saul Translations
VR - Pesquisa Goo
Seguro https://www.google.com.br/search?q=VR&oq=VR&aqs=chrome..69i57j0j69i61l3j0.1095j0j9&sourceid=chrome&ie=UTF-8
Google
VR
Fazer login
Todas Shopping Notícias Imagens Vídeos Mais Configurações Ferramentas
Aproximadamente 613.000.000 resultados (0,47 segundos)
VR Benefícios - Ideal para o seu negócio - vrbeneficios-empresas.com.br
Anúncio www.vrbeneficios-empresas.com.br/VRBenefícios
A 40 Anos no Mercado Oferecendo Experiências em Forma de Benefícios. Confira!
Aquisição Rápida e Online · Tarifa Zero na Adesão · Tarifa Zero de Entrega · Há 40 Anos no Mercado
Modelos: Vale Alimentação, Vale Refeição, Cartão De Benefícios
Experimente VR
Melhor Oferta e Benefício
Tarifa Zero em VR + VT
Desconto Farmácia Grátis
VR Collezioni Oficial - Fit para o Dia a Dia Urbano - vr-oficial.com.br
Anúncio www.vr-oficial.com.br/Coleção/VR
Sofisticação e Inovação na Forma de Vestir o Homem Urbano. Confira a Coleção!
Troca Grátis · Frete Grátis Acima de 500 · Até 5x Sem Juros*
Tipos: Camisas, Paletós, Jackets & Casacos, T-shirts, Calças, Polos, Sapatos, Tênis, Acessórios
Coleção VR 2017 · VRK para Crianças · VR Collezioni Calçados · Acessórios VR Collezioni
Jaqueta Masculina - A partir de R$830,00 - Utilitária com bolsos · Mais
VR Benefícios - Vale Refeição, Alimentação, Transporte
https://www.vr.com.br/
VR Benefícios: Vale Refeição, Alimentação, Transporte, Auto, Cultura e mais. Entre e solicite uma proposta de benefícios para seus funcionários.
Efetuar login
Área de login VR Benefícios.
Credenciamento
Faça seu credenciamento online!
Cadastre agora o seu ...
Login - VR Benefícios
Área de login VR Benefícios.
Simule e Compre
Produtos. Conheça os produtos · Simule e Compre · Efetuar ...
Compre no Shopping
Patrocinados
Oculos De Realidade Virtual 3d + Controle Bluetooth - Vr Box 038
R$32,92
Submarino
Óculos Realidade Virtual 3d Com Controle - Vr Box 2.0
R$38,87
Submarino
Mais no Google
Ver resultados relacionados
Volta Redonda (Município no Rio de Janeiro)
Tempo: 23 °C, vento NO a 5 km/h, umidade de 74%
População: 257.686 (2010)
Realidade virtual
Realidade virtual é uma tecnologia de interface avançada entre um usuário e um sistema ...
AnalyticsUpgradeSt....gif
images.png
maxresdefault.jpg
screen-shot-2016....png
20170420_164512.jpg
20171114_173907 ....jpg
Exibir todos
Digite aqui para pesquisar
POR PTB
00:21 17/11/2017

API

Entrada (37) - s | Wearable Appli | Facebook | (9) WhatsApp | My Projects - C | Wearable Com | Saul Translation | gear vr - Pesqu | Google Cardbo

Seguro | https://vr.google.com/cardboard/

Cardboard Get Cardboard Apps Developers Manufacturers Google VR

Google Cardboard

Experience virtual reality in a simple, fun, and affordable way.

Estabelecendo conexão segura...

AnalyticsUpgradeSt....gif | images.png | maxresdefault.jpg | screen-shot-2016....png | 20170420_164512.jpg | 20171114_173907 ....jpg | Exibir todos

Digite aqui para pesquisar

POR PTB 00:26 17/11/2017

Opportunities and Challenges

Map UX

- User behavior
- User feelings

Games

New hardware

New apps

Real world 3D apps

Other Technologies

3D Camera

Google Tango

AR Toolkits

Wearable x UX

Motion sense

Leap motion

.....

Thanks for your attention!

saul@sdelabrida.com