# PLAN

1. Intorduction (some funny mems)
   1. Who am I
   2. Where I’ve studied
   3. What I do right now
2. What is Windows 10 IoT Core?
   1. What designed for (what kind of devices/architecture)
   2. Do we have UI shell?
   3. Can I run standard applications from windows 10/8/7 ect?
   4. Hardware requirements
   5. What kind of devices are supported now?
   6. What kind of peripherals are supported now?
3. How install?
   1. url **SHOW**
   2. First approach: .iso **SHOW**
   3. Second approach: IoT Dashboard App **SHOW**
4. How to manage?
   1. Windows Device Portal **SHOW**
      1. Home
   2. Powershell **SHOW**
      1. Configure device
      2. Enter-PSSession
      3. List of IOT commands
      4. Basic Powershell commands
   3. SSH (Putty) **SHOW**
5. App development
   1. Languages?
   2. OS?
   3. IDE?
   4. Short about universal windows platform (Universa Windows App)
   5. How to build/deploy console app in DNX without UWP
   6. How to build/deploy node app without UWP

# DETAILS:

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   1. Web Page **SHOW**
   2. Powershell **SHOW**
      1. Configure device
      2. Enter-PSSession
      3. List of IOT commands
      4. Basic Powershell commands
   3. SSH (Putty) **SHOW**

## Where can I get it?

* Main page: https://dev.windows.com/en-us/iot
* **Where can we download it from?**<http://ms-iot.github.io/content/en-US/Downloads.htm>. There are two ways to install it:
  + you can download raw .iso and install it with include WindowsIoTImageHelper app to drop right flash on to ssd card.
  + you can download Windows IoT Dashboard and simply go through simple wizard
* **Commerzial usage:**

Two paths: https://www.windowsforiotdevices.com/

## What is the difference between windows 10 and 10 IoT?

* **How can I use it?**Windows shell experience, it means: No file explorer, no internet explorer, no media players, generally no GUI.  
  you can boot it in headed mode (app with GUI) or headless (like classic windows services – in this way system consume less resources)
* Requirements:  
  **Memory**Headless 256 MB RAM (128 MB free to OS) / 2 GB Storage  
  Headed 512 MB RAM (256 MB free to OS) / 2 GB Storage  
  **Processor** 400 MHz or faster (x86 requires PAE, NX and SSE2 support)
* **How can I manage windows 10 IoT without GUI?**Windows IoT provides two ways:
  + Access via http (Windows Device Portal)   
    <http://ms-iot.github.io/content/en-US/win10/tools/DevicePortal.htm>  
    DESCRIBE IT HERE
  + Access via command line utils you can use WinRM and SSH to do it.  
    SSH: <https://ms-iot.github.io/content/en-US/win10/samples/SSH.htm>  
    WinRM: <http://ms-iot.github.io/content/en-US/win10/tools/CommandLineUtils.htm>

FTP:   
commands: <http://ms-iot.github.io/content/en-US/win10/tools/CommandLineUtils.htm>  
DESCRIBE IT HERE

## App Development

* **What languages supports development of Universal Windows Platform apps?**
  + You can develop your UWP apps in C#, C++, JavaScript, VB, Node.js, Python and Arduino Wiring.
* What IDE?
  + Only Visual Studio 2015 with Update 1 (it’s for free so there is no problem)
* What OS can I use to develop?
  + You can develop it on every OS due to fact that VS Code and supports C# on MacOS/Linux however to build/debug/deploy you need assistance of VS so for this moment we are forced to use windows.
* How to deploy?

NODE JS:

* You can do it easily from VS level Node.js Tools for Windows IoT 1.3:  
  <https://github.com/ms-iot/ntvsiot/releases>
* Everything is out-of-the-box: here is short description how node.js is wrapped into UWP application: <https://github.com/ms-iot/node-uwp-wrapper>
* Here is how to use:
* List of namespaces that you can use: http://ms-iot.github.io/content/en-US/win10/UnavailableApis.htm

Applications Examples:

**Iot.Demo.Headed.Js:  
-** Create project from Js>Universal  
- install Jquery with Nuget  
- include Jquery

**IoT.Demo.Gpio:**-we have to include reference to Windows IoT Extensions for the UWP

**IoT.Demo.SpeechRecognition:  
-** If you want use it locally on your windows machine you need to turn on speech recognition (works only with English) – CHECK THIS ONCE AGAIN  
**-** You need to always remember that you have to select correct Capabilities in Package.appxmanifest (Microphone in this particular situation)

-How to start with speech recognition:  
1) create SpeachRecognizer instance  
2) Load grammar set of rules (<https://msdn.microsoft.com/en-us/library/hh361658>) – basically it’s   
 xml in  [Speech Recognition Grammar Specification (SRGS) Version 1.0](http://go.microsoft.com/fwlink/?LinkId=201761) format  
3) Run continuous speech recognition and handle ResultGenerated event

**Azure IoT Suite**

1. Setup on: [www.azureiotsuite.com](http://www.azureiotsuite.com)
2. Development: https://github.com/Azure/azure-iot-sdks/blob/master/csharp/device/readme.md
3. Setup Iot Hub: https://github.com/Azure/azure-iot-sdks/blob/master/doc/setup\_iothub.md
4. 3 opcja na konfiguracje: https://azure.microsoft.com/en-us/develop/iot/