

Tizen, Security and The Internet of Things

Casey Schaufler

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- Security Dinosaur
- Smack Linux Security Module
- Manager Tizen and Linux Kernel Security



Tizen

- Linux based operating system
- Project of the Linux Foundation
- Lead by Samsung and Intel



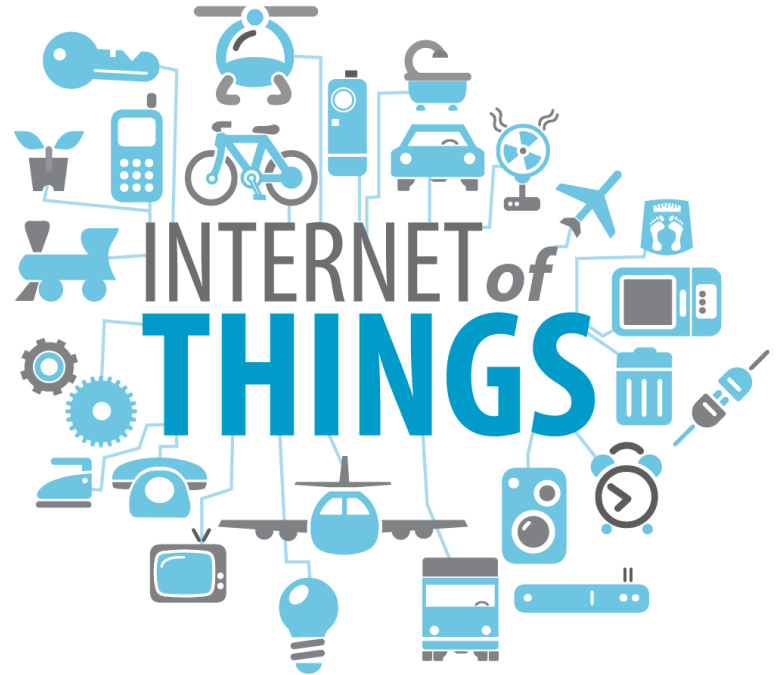
Security

- Does what it's supposed to
- Doesn't do anything else
- Know the difference



Internet of Things

- Collection of computing devices
- Heterogeneous
- Autonomous



Things

- Just want to perform their function
- Not primarily computers



Things need to communicate

- Willing to talk to anyone
- Wide variety of “networks”
- Free from traditional administration



Device Views of the Internet of Things



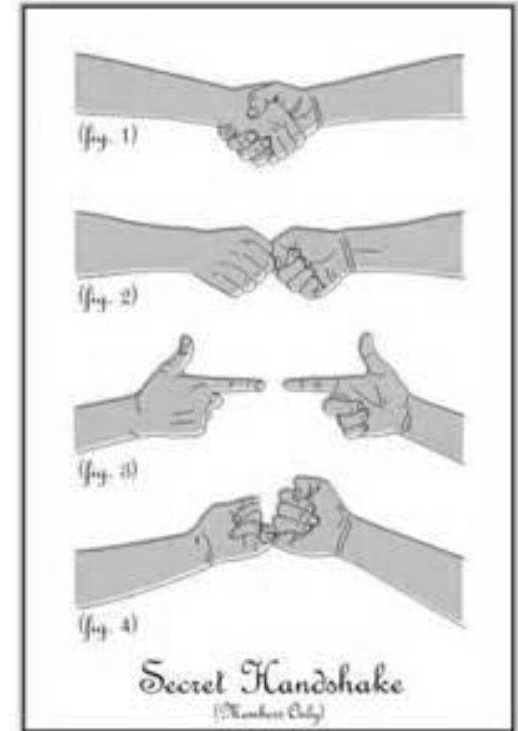
Security By Proximity

Only connect with things nearby



Security by Obscurity

No one could possibly guess!



Security By Pairing

Ask human permission

Requires a user interface



Security by Wire

1970's Smart House



OPEN INTERCONNECT CONSORTIUM



Back To Tizen

- Linux distribution for devices
- Collection of profiles
- Common security base



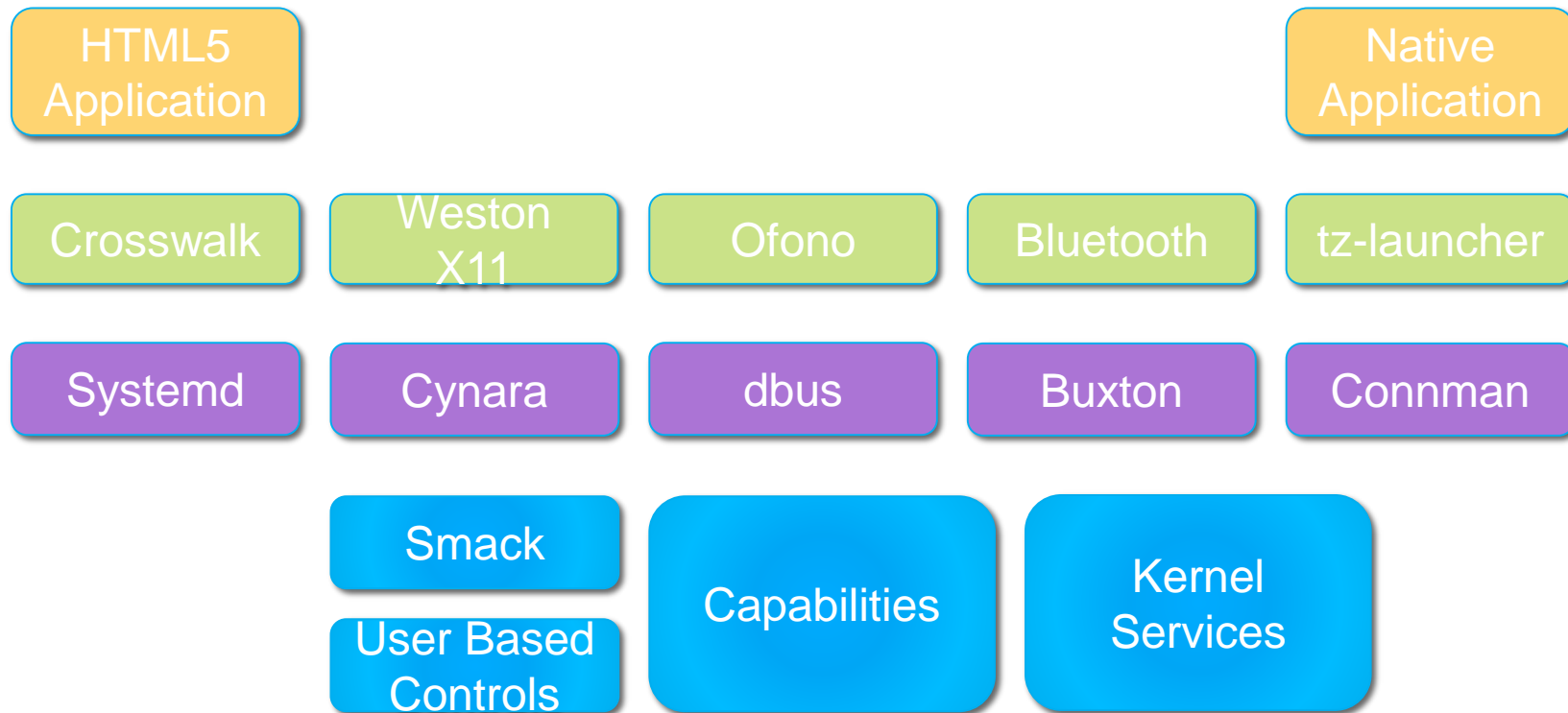
The OS of Everything

Tizen is the open-source operating system for all device areas.

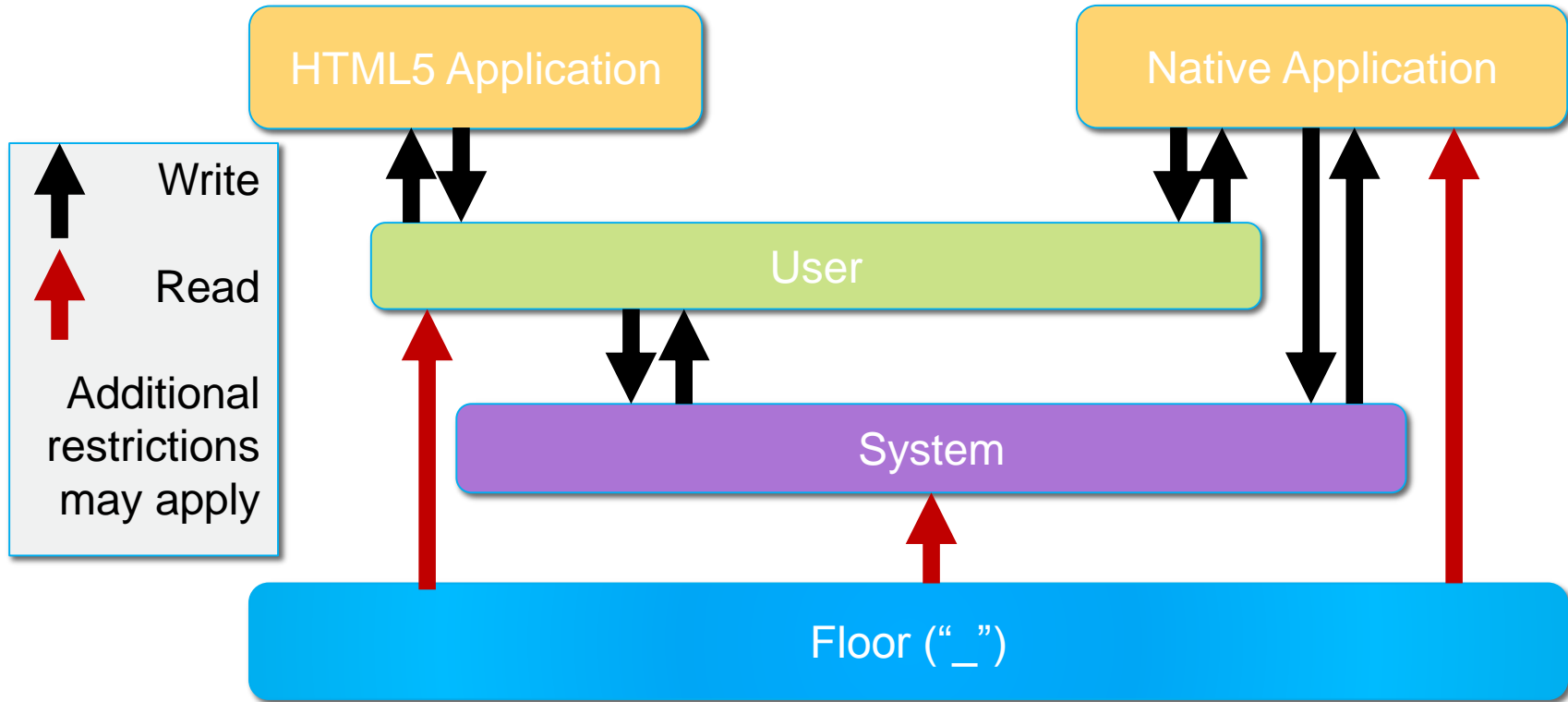
The graphic features four icons representing different device categories: a smartphone for Mobile, a smartwatch for Wearable, a steering wheel for In-Vehicle Infotainment, and a computer monitor for TV. Each icon is positioned above its respective category label.

Mobile Wearable In-Vehicle Infotainment TV

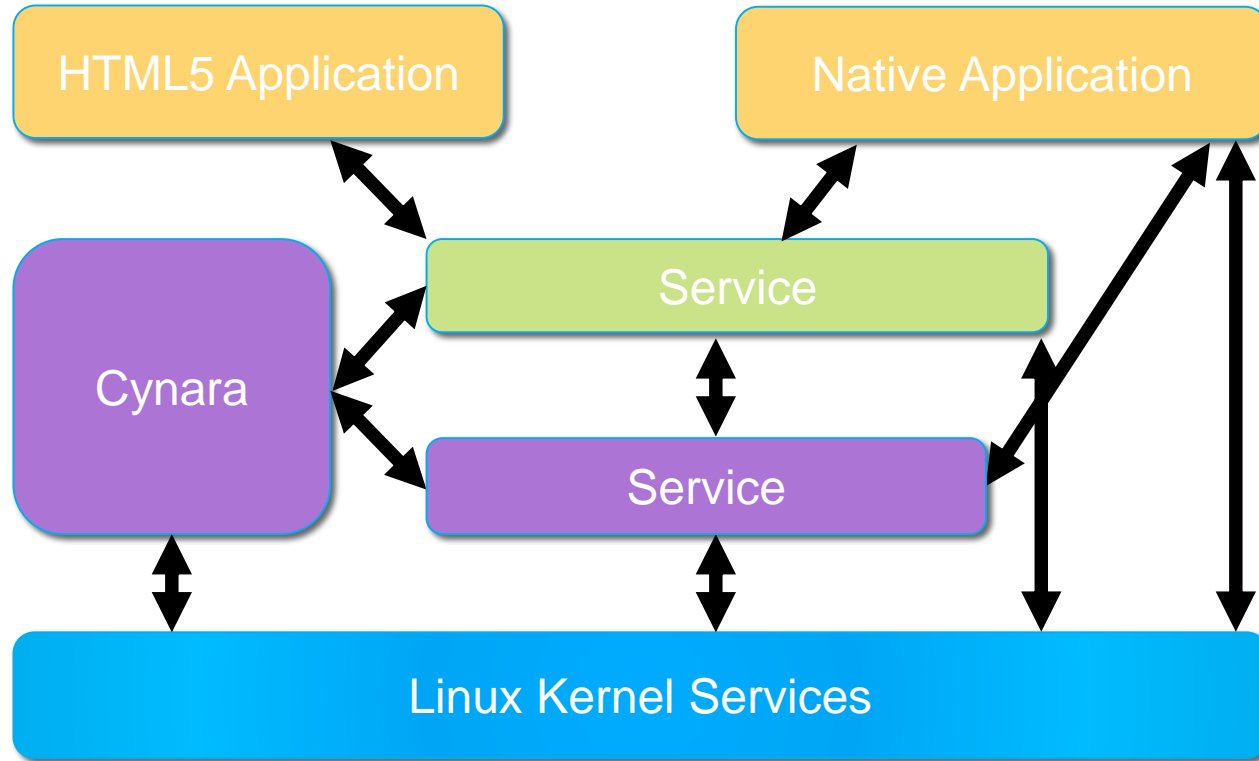
Tizen Security Basics



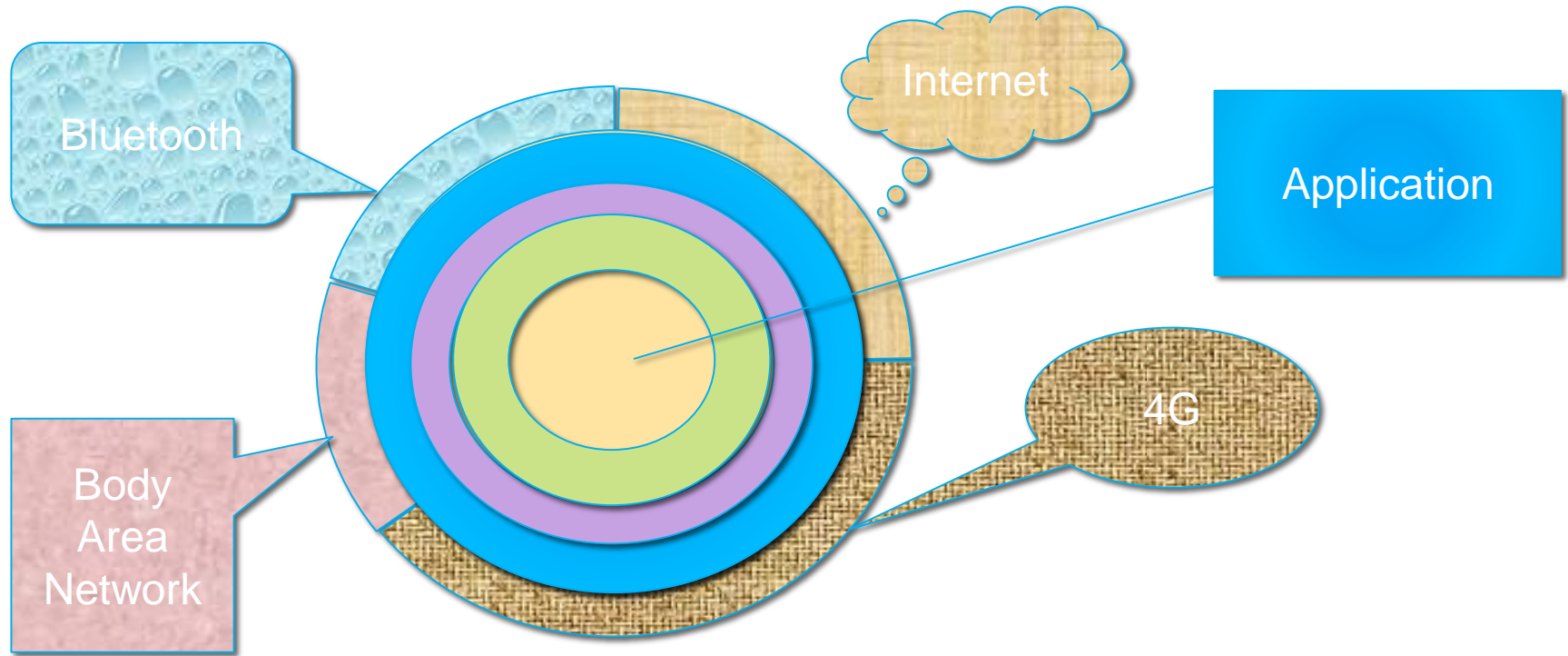
Tizen Three Domain Security



Tizen Application Privileges



Security Perimeter



Application Privilege Attributes

- Name of the privilege
 - <http://tizen.org/privilege/vibrator>
- Smack label of requester
 - RaunchyRhinos
- UID of requestor
 - 5001
- Access permitted
 - r, rw, ...



Native Application Woes

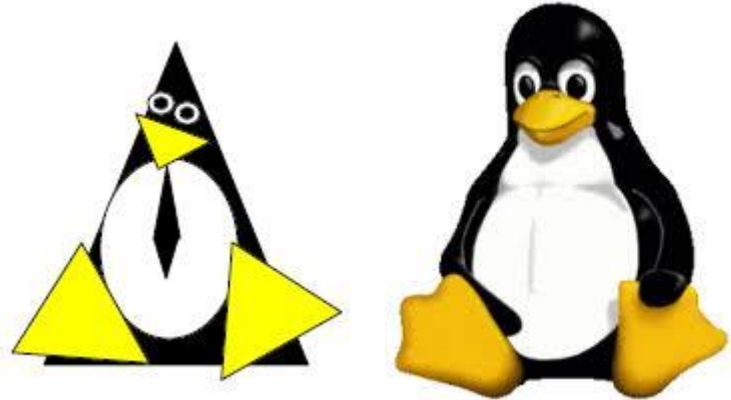
- Use kernel interfaces directly
- Avoid service based controls



more funny stuff at FUNNYASDUCK.NET

System Object Attributes

- Smack label
- UID
- GID
- Mode bits
- Smack access rules



Running Applications

- Unique Smack label per application
- Unique UID per user account
- Application launcher



Thank You

