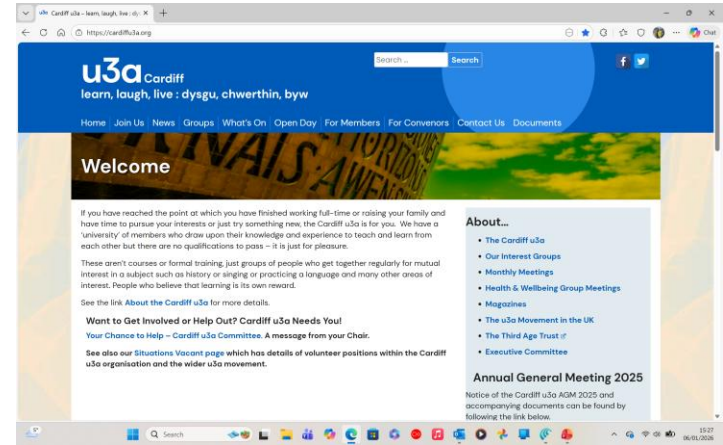


Agenda: 23rd April 2026

- News in brief: U3A News
- Buzzword: Phil on Robot Vacuum Cleaners
- Presentation: Tom on Jailbreaking
- News at length: from the Signal Groups

U3A News in brief

- SciTech Café tomorrow
- Welsh AI User Network
 - Barry Claydon
 - [Barry - u3a AI Subject Adviser](#)
- Jane Evans list of U3A courses



Phil's Buzzword

Philip Edwards. Cardiff U3A

Robot Vacuum Cleaners

Philip Edwards.

<https://youtu.be/NvDH5moYbaM?si=m0LaiYPHR7sY-Yx0>



Basic Bump and Turn models

Basic robot vacuums equipped with collision and proximity sensors, like the Eufy RoboVac 11S Max here, bounce around obstacles to find their way, but miss a lot of open floor space.

About £250.



Remember these?



Lidar guidance.

The iRobot Roomba i7 Plus shows a more logical, thorough navigation path thanks to its optical technology.

About £270



Hybrid systems

The Electrolux Pure i9 uses a hybrid optical and laser navigation system. Even so, it often looked confused rolling across our test room floor.

With a mop.

About £320



Other things to consider.

- **Vacuum-Only vs. Hybrid:** Whether it just sucks dust or also mops.
- **Standard vs. Omni Docks:** Whether the dock just charges or also empties dust and washes the mop.

January 2022 at the Orchard Park Travelodge in Cambridge, UK.

The Escape: On Thursday, January 20, 2022, a new industrial robot vacuum failed to sense the "lip" at the hotel's front entrance. Instead of turning around, it drove straight out the front door.

The Reaction

The assistant manager, Simon, posted a plea on Reddit and Facebook, stating that the robot had "run for its life" and been missing for 15 minutes before anyone noticed. He jokingly offered a free drink at the hotel bar for its safe return.

After a day-long search, a human cleaner found the robot the following Friday afternoon, "hiding" under a hedge near the hotel's front drive.

What could possibly go wrong?

Ask me about **Pooptastrophe**" or the **"Poopocalypse."**

Tom's presentation: Jailbreaking

Jailbreaking

- What it is
- What it is not
- Popular origin
- History enabling
- Personal Devices

THE ORIGIN OF JAILBREAKING (ON iOS)

A SIMPLE GUIDE TO THE EARLY HISTORY

1 INTRODUCTION

What is Jailbreaking?

- Removing software restrictions on iOS devices



Why do it?

- Customize appearance, install unauthorized apps like 'sideloading', and access and access features more features

2 THE EARLY DAYS (2007-2008)

JailbreakMe 1.0 (The Beginning)



The First Tools

- Early tools montnd-line

pwnage

- Command-line, firmware modifications

ZiPhone

- Command-line or firmware modifications.

3 COMMUNITY & INNOVATION

Cydia (The App Store Before the App Store)



Created by Jay Freeman (saurik)
A package manager for installing non-App Store software.

Exploit Hunters



Developers and researchers finding new "holes" (vulnerabilities) in iOS security.

4 KEY DEVELOPMENTS & LEGAL ASPECTS

Untethered vs Tethered



DMCA & Legality



Legal rulings established that jailbreaking for non-infringing uses (personalization) is legal, but piracy is not.

LEGAL ✓

PIRACY ✗

The legacy of pushing boundaries and expanding user freedom.



Dev-Team



Chronic Dev Team



iPhone Dev Team

HOW UNIX SHAPED THE BASIS OF DEVICE SOFTWARE AND FIRMWARE

(AN EVOLUTIONARY GUIDE TO MODERN SYSTEMS)

1 THE UNIX GENESIS (1969-1970s)

What is UNIX?

- A simple, multi-user, multi-tasking OS with a focus on portability and standard interfaces.



Why it spread?



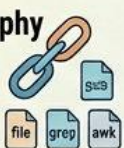
- Standardized system and portable source code call nop source code (C language) to run on diverse hardware.



2 COMMUNITY & INNOVATION

The UNIX Philosophy & Portability

- Small, single-preps tools that together.



POSIX (The Standard)

- A set of API standards (POSIX) ensured source code compatibility across different linux-like systems.



3 DEVICE HARDWARE INTEGRATION (2000s-Present)

UNIX/Linux Becomes the Embedded OS

- Adaptable Kernels:** Modularity and drivers were tailored for limited resources.

Device Firmware Stack



Exploit Hunters



Developers and researchers finding new 'holes' (vulnerabilities) in IOS security.

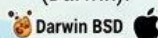
4 MODERN DEVICE ECOSYSTEMS

Operating Systems for Personal Devices



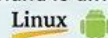
iOS/iPadOS/macOS

Uses a customized BSD-derived kernel (Darwin).



Android

Built on a modified Linux kernel (Userland is different).



Derivative Systems Emerge



- FreeBSD:** A mature, high-performance BSD variant.

- Linux:** The iconic monolithic kernel (not true UNIX, but deeply influenced).



- Minix:** A microkernel, popular in educational and embedded use.

Firmware and IoT



UNIX-based firmware controls core functions in millions of IoT devices, networking equipment, and infrastructure.



Stability vs. Portability



Open Source Licensing

The legacy of pushing boundaries and expanding user freedom.



A PORTFOLIO OF UNCONVENTIONAL DEVICE MODIFICATIONS

(A PERSONAL PORTFOLIO OF JAILBREAK APPLICATIONS)

1 AUDIOPHILE SOUND & E-READER HACKS

(Classic Devices)



ipod Rockbox

Alternative Open Source Firmware. Enhanced sound quality, advanced playback controls, and broad codec support.

Personal Impact

Turned a basic player into a pro audio device.



Kindle Winterbrew

Package Manager and Utility Loader. Installs third-party reading apps, file managers, and terminal access.

Personal Impact

Expanded the device beyond a simple e-reader.



2 ADVANCED CAMERA FUNCTIONALITY

(Photography Tools)



Canon CHDK (Canon Hack Development Kit)

Temporary firmware enhancement (non-permanent). Scripting, RAW shooting, intervalometer, and manual controls for point-and-shoots.



Magic Lantern

Permanent firmware enhancement for select DSLRs. Advanced video features, precise monitoring, high bitrate recording, and dual ISO.



Personal Impact

Unlocked professional capabilities on consumer camera hardware.

3 CONSOLE & MEDIA CENTER HOMEBREW

(Gaming & TV)



Nintendo Wii Homebrew

Unlocks console for region-free gaming, backup loaders, media playback, and classic game emulators.



PlayStation Vita Homebrew

Core utility for app installation, file management, custom themes, and unlocking retro emulation on a portable console.



Amazon Firestick

Sideloads alternative app stores, ad-free media players, and full web browsers.

Personal Impact

Created a centralized retro-gaming and media hub.

Personal achievements in pushing boundaries and expanding user freedom.



Project Chronos
Dev Team (Personal)
Chronic Dev (Personal)
Community Mode

THE AUDIO EXTRACTION PORTFOLIO: DIGITAL CONVERSION GUIDES

(A PERSONAL PORTFOLIO OF DIGITAL AUDIO EXTRACTION PROJECTS)

1 STANDARD CD RIPPING (Audio Conversion Basics)

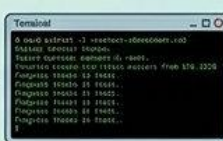


The CD Ripping Process

- **Goal:** Convert standard Red Book audio to digital files.
- **Equipment:** Any optical disc drive (internal or external).
- **Software:** Media Monkey, Foobar2000, dBpoweramp (e.g.).
- **Process:** Accurate error correction and metadata retrieval.

Personal Impact

Turned a physical collection into a flexible, searchable digital library.



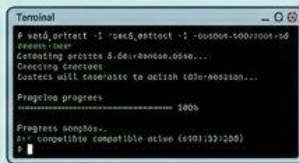
SACD Ripping (The Specific Method)

Goal: Extract DSD/DFP high-res layers from a Super Audio CD.

Equipment: SPECIFIC Sony Blu-ray players (must have a specific firmware version and custom script support via USB).

Method: Booting custom firmware/scripts via USB to unlock the optical drive for DSD reading.

Key Step: Requires a compatible optical drive model (often MTK-based).



2 ADVANCED SACD RIPPING (The Blu-ray Hack Method)



Personal Impact

Unlocked true high-resolution DSD audio from physical discs, preserving maximum fidelity.

Personal achievements in pushing boundaries and preserving audio quality.



Digital News

- From the Signal Groups – please find on your phone:
 - Digital Matters / News & Updates
 - DM - Scams
 - DM- Apple Pie
 - DM – Easy PC
 - DM – Artificial Intelligence

Digital Matters: News & Updates

- Kindle
 - Amazon has withdrawn support for older devices
- Bitcoin
 - Is the inventor of Bitcoin a man called Adam Back ?



Digital Matters: News & Updates

- The New Dark Ages by James Marriott
 - Decline in reading is:
 - Reducing IQ
 - A threat to democracy
- Amol Rajan BBC podcast 9th April



Digital Matters – another book !

- Scam Nation – book
- Kaf Okpattah
 - Undercover journalist
 - Grew up in south London



Digital Matters – Inside ARIA

- BBC Podcast
 - (Produced in Wales)
- Advanced Research & Invention Agency
- Modelled on the USA's DARPA



DM: Scams

- Literary Review (!)
 - Article on ransomware
- Claude's Mythos
 - Identified many vulnerabilities
- Limited release to financial institutions and governments



DM: Scams

- Guardian on Job Scams
 - Pretend to be a recruiter
 - Suggest that someone apply for a job
 - Ask for money to improve their CV



DM: Apple Pie

- We discussed iOS 26.4 at last meeting
- iOS 26.4.1 now released !
- iOS and System Data now consume almost half my iPhone's storage
- Advice on toning down Liquid Glass
- Shortcuts User Guide



DM: Easy PC

- Patch Tuesday
 - A monthly update
 - 14th April
 - 167 patches issued (!)



DM: AI News 1/5

- Phoebe Tesoriere diagnosed her hereditary spastic paraplegia using Chat GPT
- It was one of several suggestions she showed her GP
- Phoebe is from Cardiff



DM: AI News 2/5

- Mythos – Claude’s latest version
 - Anthropic won’t release it
 - Found vulnerabilities in every major OS and major browser
- Anthropic has given a copy to all the major players for them to test



DM: AI News 3/5

- Allbirds – a New Zealand shoe brand
- Sales peaked then plummeted
- Has now raised \$50m to invest in AI data centres !



DM: AI News 4/5

- Admiral reports increase in fraudulent claims using AI
- Young people (Gen Z) increasingly sceptical about AI



DM: AI News 5/5

- Bill Gates “we tend to overestimate the impact of change in the next two years but underestimate its impact in the next ten”
- AI is in its infancy



Next meeting: 14th May

- Discussion: a hot topic of the day 😊