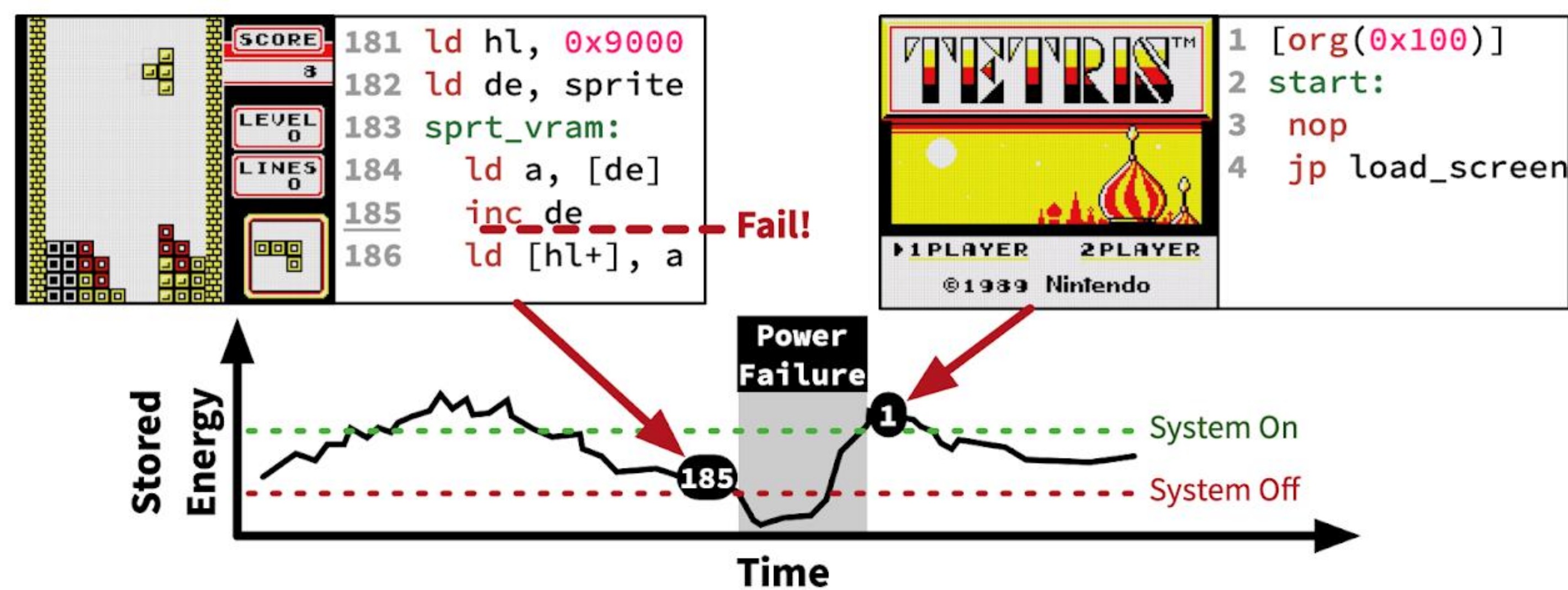
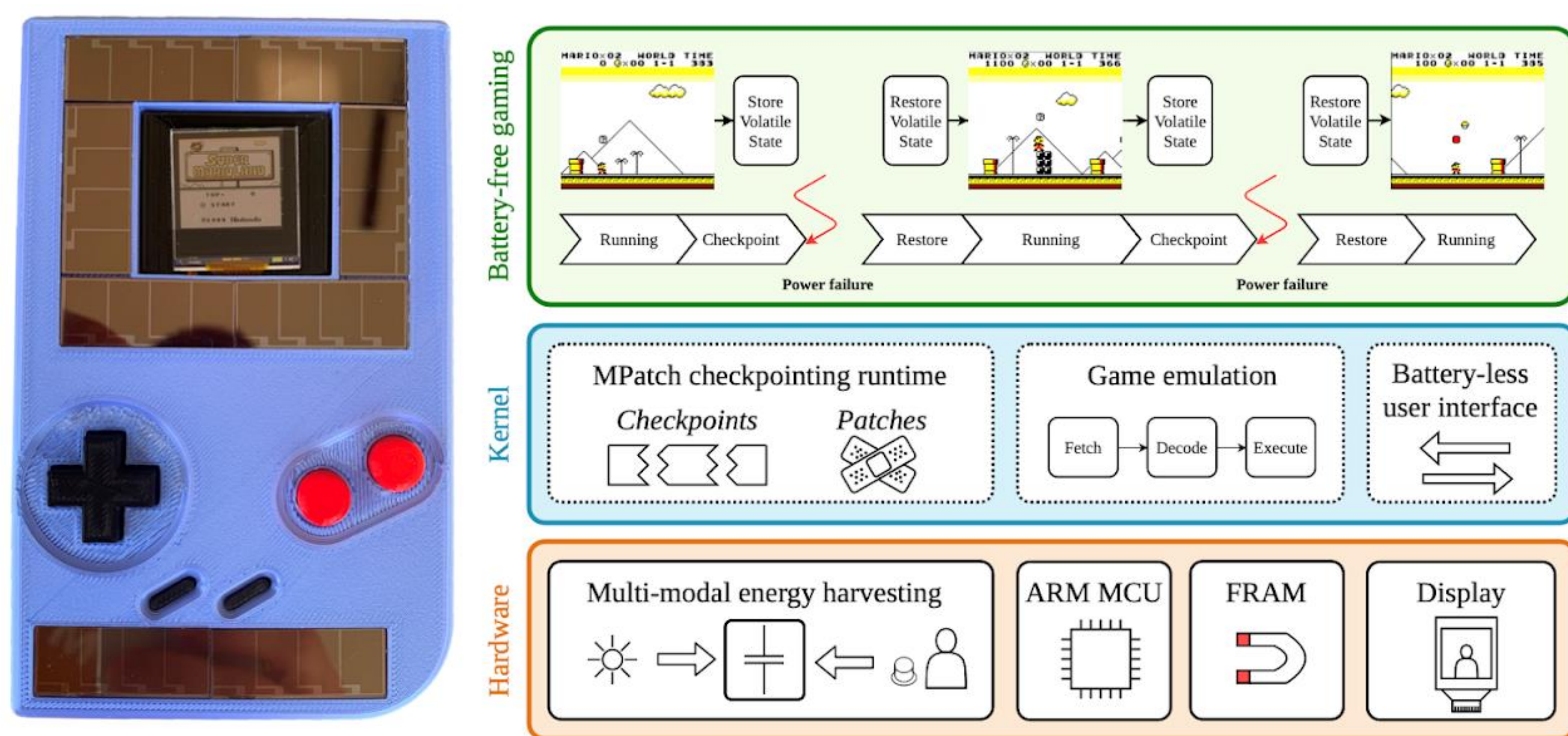




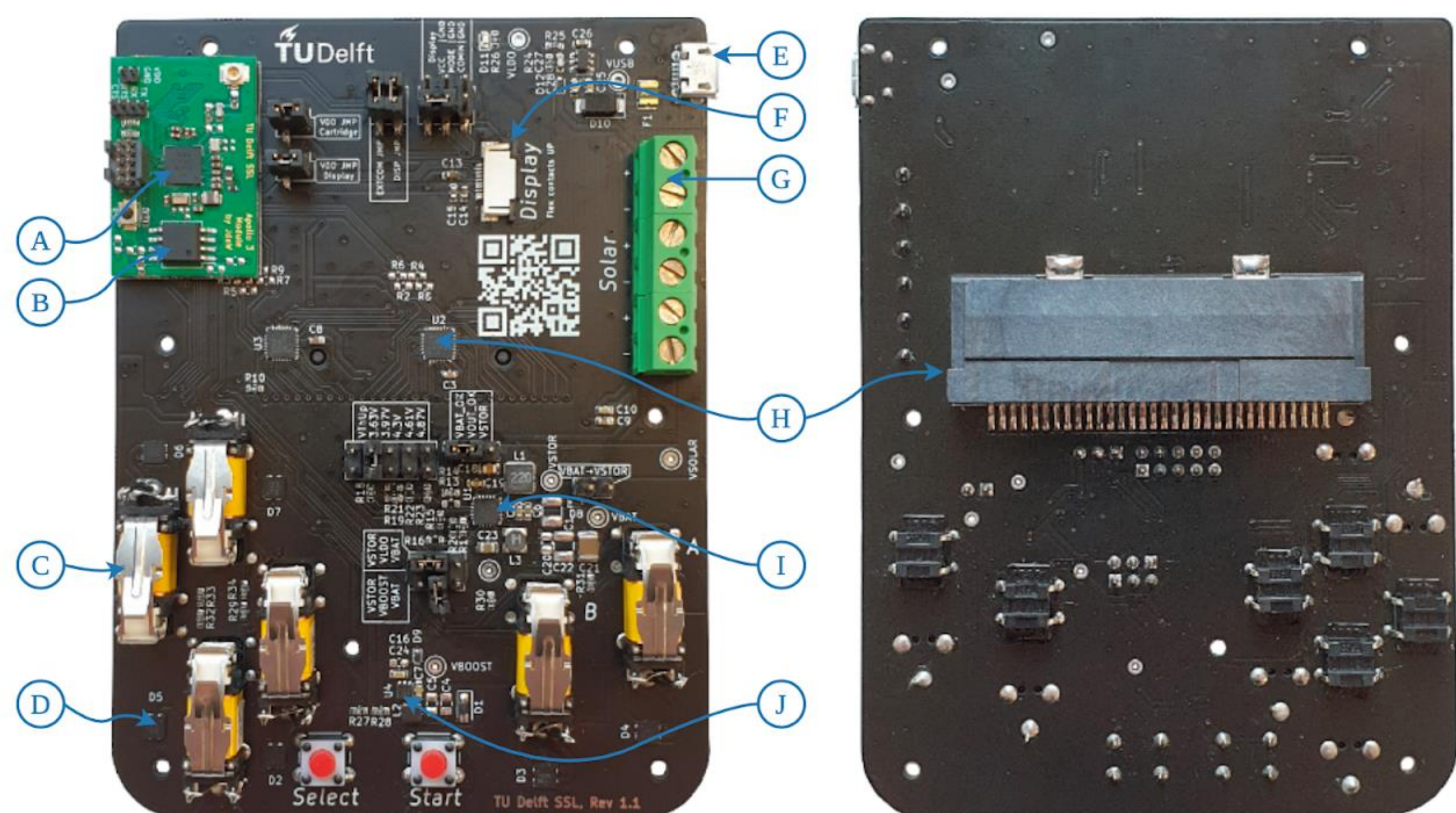
**Goal:** Design a sustainable battery-free gaming platform that can run forever



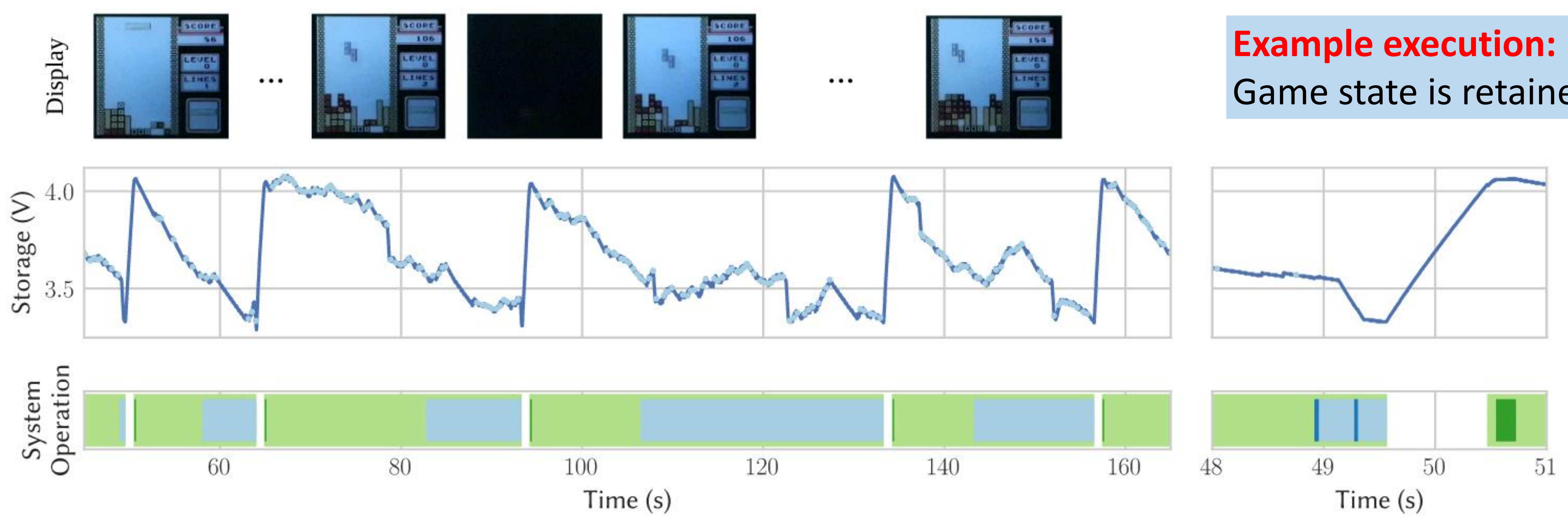
**Problem:** Running a game on harvested power causes game restart



**Solution:** Hardware that harvests sun and buton pressing – Software that retains system state



**Implementation:** A) ARMCortex-M4 MCU, (B) FRAM, (C) Energy harvesting switch, (D) low forward voltage diode bridge, (E) micro USB port, (F) display connector (G) solar panels connector (H) cartridge interface (I) power management (J) boost convert



**Example execution:** Game state is retained

**Contact**

Jasper de Winkel  
Autonomous Parking Sensor Network  
j.dewinkel@tudelft.nl

**References**

1. J. de Winkel et al. "Batter-Free GameBoy", in Proc. ACM UbiComp 2020
2. [www.freethegameboy.info](http://www.freethegameboy.info)

**Teams**

