Unearthed Project Ideas - 50 Archaeology Problems & Solutions

Identify a problem faced by archaeologists and propose a solution that can help.

Field Excavation Problems (1-15)

Problem	Possible Solution	Prototype
1. Fragile artifacts break during excavation	Precision micro-excavation tools with vibration control	"Gentle Digger" with adjustable vibration settings and soft-tipped tools
2. Difficult to excavate in tight spaces	Flexible robotic excavation arms	"Flexi-Digger" articulated arm that can navigate narrow trenches
3. Contamination between archaeological layers	Layer-specific tool sterilization system	"Clean Dig Kit" with UV sterilization chamber for tools
4. Weather destroys uncovered artifacts	Rapid deployment protective shelters	"Instant Site Shelter" pop-up weatherproof covering system
5. Hard to see fine details in poor lighting	Portable LED lighting with magnification	"Dig Light Pro" adjustable LED system with built-in magnifier
6. Soil analysis takes too long	On-site soil composition analyzer	"Dirt Detective" portable soil testing device with instant results
7. Measuring and mapping artifacts is slow	Automated measurement and positioning system	"Artifact Mapper" using laser measurement and GPS tracking
8. Difficult to excavate around tree roots	Root-safe excavation techniques	"Root Navigator" flexible tools that work around vegetation
9. Water seepage floods excavation sites	Portable site drainage system	"Dig Dry" modular drainage and pumping system
10. Hard to maintain excavation grid accuracy	Digital grid projection system	"Grid Master" laser grid projector for precise excavation squares
11. Dust makes work conditions hazardous	Dust suppression and air filtration	"Clean Air Digger" personal air filtration system
12. Artifacts get mixed up between grid squares	Smart tagging and tracking system	"Artifact Tracker" RFID tagging system for excavated items
13. Difficult to work in extreme temperatures	Climate-controlled work environment	"Comfort Zone" portable heating/cooling system for dig sites

Problem	Possible Solution	Prototype
14. Transportation of tools to remote sites	All-in-one portable excavation kit	"Dig-in-a-Box" complete excavation toolkit in wheeled case
15. Volunteers need constant supervision	Self-guided excavation training system	"Dig Tutor" interactive training system with step-by-step guidance

Documentation & Recording Problems (16-25)

Problem	Possible Solution	Prototype
16. Hand-drawn site maps are inaccurate	Digital mapping using drones and AI	"SkyMapper" drone-based automatic site mapping system
17. Paper records get damaged or lost	Waterproof digital recording system	"Dig Pad" ruggedized tablet with waterproof case and stylus
18. Photos don't capture 3D artifact details	3D photogrammetry made simple	"3D Artifact Scanner" smartphone-based photogrammetry app
19. Handwriting is illegible in field notes	Voice-to-text recording system	"Dig Voice" hands-free voice recording with automatic transcription
20. Hard to standardize recording between team members	Digital forms with mandatory fields	"Uniform Records" standardized digital data entry system
21. GPS coordinates are inaccurate under tree cover	Enhanced positioning system	"Precision Pointer" GPS system with ground reference points
22. Artifact photography lacks proper scale	Automated scale and lighting system	"Perfect Shot" camera mount with integrated scale and lighting
23. Field sketches take too long to complete	Rapid sketching assistance tool	"Quick Sketch" digital drawing tablet with archaeological templates
24. Data backup is unreliable in remote locations	Satellite data backup system	"Cloud Digger" satellite internet connection for data backup
25. Multiple team members can't access records simultaneously	Real-time collaborative database	"Team Share" multi-user archaeological database system

Artifact Analysis Problems (26-35)

Problem	Possible Solution	Prototype
26. Artifact identification takes expert knowledge	AI-powered artifact identification	"Artifact ID" machine learning system for object classification
27. Dating artifacts is expensive and slow	Portable dating analysis kit	"Age Estimator" field-portable radiocarbon dating device
28. Hard to analyze artifacts without damaging them	Non-destructive analysis techniques	"Gentle Analyzer" ultrasound and X-ray imaging system
29. Microscopic analysis requires lab equipment	Portable high-powered digital microscope	"Pocket Lab" smartphone-attachable microscope system
30. Chemical composition analysis is costly	Simplified elemental analysis kit	"Element Detector" portable XRF analyzer for field use
31. Organic material analysis degrades samples	Preservation during analysis system	"Sample Saver" climate-controlled analysis chamber
32. 3D scanning equipment is too expensive	Low-cost 3D scanning solution	"Budget Scanner" smartphone-based 3D artifact scanner
33. Artifact comparison across sites is difficult	Digital artifact comparison database	"Match Maker" AI system for comparing artifacts across sites
34. Textile and fiber analysis destroys samples	Micro-sampling techniques	"Fiber Friend" microscopic sampling tool with minimal damage
35. Metal artifact corrosion obscures details	Digital restoration and enhancement	"Metal Revealer" software for digitally removing corrosion

Site Management Problems (36-40)

Problem	Possible Solution	Prototype
36. Unauthorized access to dig sites	Smart security monitoring system	"Site Guardian" motion sensor and camera security system
37. Vandalism and looting of sites	Community engagement and protection	"Adopt-a-Site" local community involvement program
38. Limited excavation time due to permits	Efficient excavation planning software	"Time Maximizer" AI-optimized excavation schedule planner

Problem	Possible Solution	Prototype
39. Equipment theft from remote sites	GPS tracking and alarm system	"Gear Guard" GPS tracker and alarm for valuable equipment
40. Coordination between multiple dig teams	Central command and communication hub	"Mission Control" centralized site management system

Preservation & Conservation Problems (41-45)

Problem	Possible Solution	Prototype
41. Artifacts deteriorate during transport	Smart packaging with environmental monitoring	"Safe Transit" climate-controlled artifact shipping container
42. Storage facilities have inadequate climate control	Portable climate monitoring and adjustment	"Micro Climate" personal climate control for artifact storage
43. Conservation treatments are irreversible	Reversible conservation techniques	"Second Chance" removable protective coating system
44. Limited conservation expertise available	Remote conservation consultation system	"Expert Connect" video consultation system for conservation advice
45. High cost of professional conservation	DIY conservation training and tools	"Conservation Kit" basic tools and training for field conservation

Public Engagement & Education Problems (46-50)

Problem	Possible Solution	Prototype
46. Public doesn't understand archaeology's importance	Interactive archaeology demonstration kit	"Dig Discovery" portable hands-on archaeology experience
47. Limited funding for archaeological projects	Crowdfunding platform for archaeology	"Fund the Dig" archaeology-specific crowdfunding website
48. Archaeological reports are too technical for public	Automated report translation system	"Plain Talk" AI system that converts technical reports to readable summaries
49. Youth lack interest in archaeology careers	Gamified archaeology learning system	"Dig Quest" archaeology-themed educational video game
50. Archaeological discoveries don't reach the public quickly	Real-time discovery broadcasting system	"Live Dig" streaming system for sharing discoveries as they happen