

MerdekaOS

Arch-based Linux Distribution for Indonesian Users

Project Proposal & Strategic Analysis

Ak'sara Initiative - Phase 3 Project

Executive Summary

MerdekaOS adalah distribusi Linux berbasis Arch yang dirancang khusus untuk user Indonesia, dengan fokus pada kemudahan penggunaan, performa optimal, dan dukungan hardware lokal yang excellent.

Vision: Menciptakan alternatif OS yang powerful, ringan, dan mudah digunakan untuk mengurangi ketergantungan Indonesia pada sistem operasi proprietary.

12-18

Bulan Pengembangan

\$200K

Estimasi Budget

1M+

Target Users

Strategic Context

National Technology Independence

- **Dependency Reduction:** Mengurangi ketergantungan pada Windows dan macOS
- **Local Hardware Support:** Optimasi untuk laptop dan PC yang dijual di Indonesia
- **Government Adoption:** Alternatif untuk institusi pemerintah
- **Educational Impact:** Platform pembelajaran untuk computer science

Market Opportunity

- **Indonesia PC Market:** 15M+ units sold annually
- **Linux Adoption:** <2% market share, huge growth potential
- **Price Sensitivity:** Indonesian users need cost-effective solutions
- **Technical Skills:** Growing developer community needs good tools

Ak'sara Ecosystem Integration

- **Bundled Software:** Pre-installed Aksara IS dan Aksara Writer
- **Development Platform:** Optimized untuk Indonesian developers
- **Business Ready:** Templates dan tools untuk SME digitalization

Key Benefits

- **Zero License Cost:** Completely free alternative to proprietary OS
- **Performance Optimized:** Lightweight for older hardware
- **Indonesian Language:** Full localization and support
- **Developer Friendly:** Pre-configured development environment

Technical Specifications

Base System Architecture

Foundation: Arch Linux

- **Rolling release:** Always up-to-date packages
- **Lightweight:** Minimal base installation
- **Performance:** Optimized untuk resource efficiency
- **Customizable:** Flexible configuration options

Desktop Environment: Custom GNOME

- **Modern interface:** Clean, intuitive user experience
- **Indonesian localization:** Complete Bahasa Indonesia support
- **Performance tuned:** Optimized animations dan resource usage

Hardware Optimization

Indonesian Laptop Brands Focus:

- **Advan:** Driver optimization dan power management
- **Axioo:** Hardware compatibility testing
- **Polytron:** Performance tuning untuk specifications typical

Common Hardware Support:

- **Intel/AMD processors:** Optimized scheduling dan power management
- **Integrated graphics:** Intel HD, AMD Radeon optimization
- **WiFi chipsets:** Robust driver support untuk common adapters
- **Bluetooth:** Seamless device pairing dan management

Key Features

User Experience Enhancements

Installation Experience:

- **Graphical installer:** User-friendly setup wizard
- **Hardware detection:** Automatic driver installation
- **Partition management:** Safe dual-boot setup dengan Windows
- **User setup:** Indonesian keyboard, timezone, language

Desktop Experience:

- **Indonesian theme:** Batik-inspired visual design
- **Local applications:** Banking, e-commerce, government apps
- **Font optimization:** Beautiful Indonesian text rendering
- **Input methods:** Support untuk various Indonesian input

Pre-installed Software Suite

Productivity Applications:

- **LibreOffice:** Fully localized dengan Indonesian templates
- **Aksara Writer:** Markdown converter untuk business documents
- **Web browsers:** Firefox dengan Indonesian bookmarks dan settings
- **Media tools:** VLC, GIMP untuk multimedia needs

Development Tools:

- **VS Code:** Pre-configured dengan Indonesian extensions
- **Node.js/Bun:** Modern JavaScript development
- **Python:** Data science dan web development
- **Git:** Version control dengan Indonesian documentation

Business Applications:

- **Aksara IS:** No-code platform pre-installed
- **Accounting software:** Local Indonesian accounting standards
- **PDF tools:** Invoice generation, document management
- **Communication:** Local messaging dan video call tools

Market Analysis

Target User Segments

Primary Users:

- **Office workers:** Government employees, SME staff
- **Students:** University students learning computer science
- **Developers:** Indonesian software developers
- **Small businesses:** Shop owners, freelancers

Secondary Users:

- **Educational institutions:** Schools dan universities
- **Government agencies:** Cost-conscious departments
- **Internet cafes:** Gaming centers, co-working spaces
- **Tech enthusiasts:** Linux users, open source advocates

Market Analysis

Competitive Landscape

DISTRIBUTION	MARKET POSITION	STRENGTHS	WEAKNESSES
Windows	Dominant (85%)	Familiar, compatible	Expensive, bloated
Ubuntu	Linux leader (40% Linux)	User-friendly	Generic, not localized
Elementary	Design-focused	Beautiful interface	Limited software
MerdekaOS	Indonesian focus	Local optimization	New entrant

Development Roadmap

Phase 1: Core System (Months 1-6)

Focus: Stable base system dengan Indonesian optimizations

Deliverables:

- Arch-based foundation dengan custom repositories
- Indonesian-themed desktop environment
- Hardware compatibility untuk major brands
- Basic installation system
- Alpha release untuk testing

Team Requirements:

- 2 system engineers
- 1 UI/UX designer
- 1 QA engineer

Development Roadmap

Phase 2: Application Integration (Months 7-12)

Focus: Pre-installed applications dan user experience

Deliverables:

- Complete software suite integration
- Aksara IS dan Aksara Writer pre-installation
- Indonesian language packs dan input methods
- Driver packages untuk common hardware
- Beta release dengan community testing

Team Requirements:

- 1 additional application developer
- 1 localization specialist
- 1 documentation writer

Development Roadmap

Phase 3: Distribution & Support (Months 13-18)

Focus: Public release dan ecosystem building

Deliverables:

- Stable 1.0 release
- OEM partnerships dengan laptop manufacturers
- Community support infrastructure
- Documentation dan training materials
- Update dan maintenance systems

Team Requirements:

- 1 community manager
- 1 business development
- 1 support engineer

Business Model & Partnerships

Distribution Strategy

OEM Partnerships:

- **Advan, Axioo, Polytron:** Pre-installed OS option
- **Revenue sharing:** \$5-10 per unit dengan manufacturers
- **Support agreements:** Technical support untuk OEM customers
- **Marketing cooperation:** Joint promotional campaigns

Direct Distribution:

- **Free download:** Community edition dengan basic features
- **Premium edition:** \$25 dengan additional software dan support
- **Enterprise edition:** \$100 dengan management tools dan SLA
- **USB/DVD sales:** Physical media untuk areas dengan limited internet

Revenue Streams

1. OEM Licensing (60% revenue)

- Partnership dengan laptop manufacturers
- Pre-installation revenue sharing
- Support service contracts

2. Enterprise Services (30% revenue)

- Custom deployment solutions
- Training dan consultation
- Long-term support contracts

3. Application Ecosystem (10% revenue)

- Software store commission
- Premium application sales
- Third-party integration fees

Technical Implementation

Custom Package Repository

MerdekaOS Packages:

- **Optimized kernels:** Power management, hardware support
- **Indonesian applications:** Banking, government, business tools
- **Local mirrors:** Fast download speeds untuk Indonesian users
- **Security updates:** Timely patches dan vulnerability fixes

Development Infrastructure:

- **Build systems:** Automated package building dan testing
- **Quality assurance:** Package validation dan compatibility testing
- **Community contributions:** Package maintainer program
- **Documentation:** Indonesian package development guides

System Architecture

MerdekaOS Components:

- └─ Base System (Arch Linux)
- └─ Custom Desktop (GNOME + Indonesian theme)
- └─ Hardware Support (Driver packages)
- └─ Application Suite (Pre-installed software)
- └─ Indonesian Localization (Language, input, fonts)
- └─ Update System (Package management)
- └─ Support Infrastructure (Documentation, community)

Market Entry Strategy

Phase 1: Developer Community (Months 1-6)

Target: Indonesian Linux enthusiasts dan developers

Approach:

- Open source development di GitHub
- Tech conference presentations
- Developer community engagement
- Technical blogs dan tutorials

Goals:

- 1,000 alpha testers
- 100 community contributors
- Technical validation
- Hardware compatibility database

Market Entry Strategy

Phase 2: Educational Adoption (Months 7-12)

Target: Universities dan technical schools

Approach:

- Educational partnerships
- Student developer programs
- Campus deployment pilots
- Computer science curriculum integration

Goals:

- 10 university partnerships
- 5,000 student users
- Educational use cases validation
- Teaching material development

Market Entry Strategy

Phase 3: Commercial Launch (Months 13-18)

Target: OEM partnerships dan general users

Approach:

- Manufacturer negotiations
- Retail channel development
- Marketing campaigns
- Government procurement participation

Goals:

- 2 OEM partnerships
- 50,000 users
- Government pilot programs
- Revenue generation

Risk Analysis & Mitigation

Technical Risks

Risk: Hardware compatibility issues dengan Indonesian brands	Mitigation: Extensive testing manufacturer partnerships	Risk: Software limitations Windows ecosystem dibanding	Mitigation: Focus pada web applications, essential software porting	Risk: Update system complexity untuk non-technical users	Mitigation: Automated updates, simple UI, rollback capabilities
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Market Risks

Risk: User resistance untuk change dari Windows	Mitigation: Easy migration tools, dual-boot support, training	Risk: OEM reluctance untuk alternative OS	Mitigation: Compelling business case, technical support, marketing cooperation	Risk: Competition dari international Linux specific features, partnerships, community building	Mitigation: Indonesian-specific features, local community building
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Business Risks

Risk: Limited market size untuk Linux desktop	Mitigation: Focus pada growing segments (developers, students, government)	Risk: Sustainability dengan open source model	Mitigation: Multiple revenue streams, enterprise services, OEM partnerships
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Success Metrics & KPIs

Technical KPIs

- **Boot time:** <20 seconds pada typical hardware
- **RAM usage:** <1GB idle consumption
- **Hardware compatibility:** >95% Indonesian laptop models
- **Package availability:** >80% essential applications

Adoption KPIs

- **User base:** 10K (Month 6) → 50K (Month 12) → 250K (Month 18)
- **OEM partnerships:** 2 major manufacturers by Month 18
- **Educational adoption:** 25 institutions by Month 18
- **Community:** 500 active contributors, 50 package maintainers

Business KPIs

- **Revenue:** \$50K (Year 1) → \$500K (Year 2) → \$2M (Year 3)
- **Market share:** 0.1% Indonesian desktop market by Year 2
- **Support metrics:** <24 hour response time, >90% satisfaction
- **Ecosystem growth:** 100+ third-party applications

Resource Requirements

Development Team

- **System Architect:** Linux kernel + Arch expertise (\$90K/year)
- **Desktop Developer:** GNOME customization (\$70K/year)
- **Package Maintainer:** Repository management (\$60K/year)
- **QA Engineer:** Testing + hardware validation (\$55K/year)
- **UI/UX Designer:** Indonesian interface design (\$65K/year)

Infrastructure Costs

- **Build servers:** \$20K/year
- **Package mirrors:** \$30K/year (multiple Indonesian locations)
- **Testing hardware:** \$15K one-time (various laptop models)
- **Development tools:** \$10K/year

Business Operations

- **Community management:** \$40K/year
- **Documentation:** \$25K/year
- **Marketing:** \$50K/year
- **Legal compliance:** \$15K/year

Strategic Impact

National Technology Goals

- **Digital sovereignty:** Reduced dependency pada foreign OS
- **Local innovation:** Platform untuk Indonesian software development
- **Educational advancement:** Modern tools untuk computer science education
- **Economic impact:** Support untuk local hardware manufacturers

Ak'sara Ecosystem Benefits

- **Platform synergy:** Optimized environment untuk Aksara IS dan Writer
- **Developer adoption:** Attracts developers ke Ak'sara tools
- **Government relations:** Demonstrates commitment ke national tech independence
- **Brand recognition:** Establishes Ak'sara sebagai serious tech initiative

Long-term Vision

- **Mobile OS:** Extension ke Android-based mobile OS
- **IoT platform:** Embedded systems untuk smart devices
- **Cloud integration:** Seamless integration dengan Indonesian cloud services
- **AI acceleration:** Optimized platform untuk local AI development

Financial Projections

3-Year Revenue Projection

Year 1: \$50K

- 1,000 premium users × \$25
- 2 OEM pilots × \$12.5K

Year 2: \$500K

- 10,000 premium users × \$25
- 5 OEM partnerships × \$50K
- Enterprise services: \$100K

Year 3: \$2M

- 50,000 premium users × \$25
- 10 OEM partnerships × \$125K
- Enterprise services: \$500K

Investment Requirements

- **Year 1:** \$400K (team + infrastructure)
- **Year 2:** \$600K (scaling + marketing)
- **Year 3:** \$800K (expansion + enterprise features)

Break-even: Month 24

ROI: 3x over 5 years

Conclusion

Strategic Recommendation

Key Success Factors

- **Technical excellence:** Reliable, performant system untuk Indonesian hardware
- **Strategic partnerships:** OEM cooperation untuk distribution
- **Community building:** Active developer dan user communities
- **Government support:** Alignment dengan national digitalization goals

Phased Approach Benefits

- **Lower risk:** Gradual development dengan validation di each phase
- **Community-driven:** Open source development model
- **Market validation:** Testing dengan real users before commercial launch
- **Sustainable growth:** Revenue streams develop organically

Next Steps

- **Core team recruitment:** System architect dan desktop developer
- **Infrastructure setup:** Build systems dan testing environment
- **Alpha development:** 6-month sprint untuk basic functionality
- **Community launch:** Open source release dengan developer community

MerdekaOS represents a bold vision untuk Indonesian technology independence. Sebagai long-term strategic project, ini dapat significantly impact national digital sovereignty sambil strengthening Ak'sara ecosystem position.

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