# **Engineering Communism**

On Software Engineering

First Edition

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On Software Engineering

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Communist Engineer Planet Earth



from each to each

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### Preface

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### Chapter 1

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- 1.1.2 Distinction between software engineering and programming
- 1.1.3 The role of software engineering in modern society
- 1.1.4 Key areas of software engineering

# 1.2 Historical Development of Software Engineering

- 1.2.1 Early computing and the birth of programming (1940s-1950s)
- 1.2.2 The software crisis and the emergence of software engineering (1960s-1970s)
- 1.2.3 Structured programming and software development methodologies (1970s-1980s)
- 1.2.4 Object-oriented paradigm and CASE tools (1980s-1990s)
- 1.2.5 Internet era and web-based software (1990s-2000s)
- 1.2.6 Agile methodologies and DevOps (2000s-2010s)
- 1.2.7 AI-driven development and cloud computing (2010s-present)

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- 1.5.1 Scalability and performance issues
- 1.5.2 Security and privacy concerns
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- 1.6.2 Social media and communication
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- 1.7.3 The political economy of software platforms
- 1.7.4 Software as a means of production
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- 1.8.1 Anticipated technological advancements
- 1.8.2 Evolving methodologies and practices
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- 1.8.4 Visions for software engineering in a communist society

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- 2.1.3 Spiral Model
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- 2.2.2 Requirements Elicitation Techniques
- 2.2.3 Requirements Specification and Documentation
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#### Call to Action for Software Engineers 11.6 Engaging in revolutionary praxis through software 11.6.1 development 11.6.1.1 Contributing to open-source projects with socialist aims Developing software for grassroots organizations and move-11.6.1.2 ments 11.6.1.3 Implementing privacy-preserving and decentralized technologies 11.6.2Organizing within the tech industry 11.6.2.1 Forming and joining tech worker unions 11.6.2.2 Advocating for ethical practices in the workplace 11.6.2.3 Whistleblowing on unethical corporate practices 11.6.3 Education and skill-sharing 11.6.3.1 Teaching coding skills in underserved communities 11.6.3.2 Mentoring young socialists in tech 11.6.3.3 Writing and sharing educational resources on revolutionary software Participating in policy and standards development 11.6.4 11.6.4.1 Advocating for open standards and interoperability Engaging in technology policy debates from a socialist per-11.6.4.2 spective 11.6.4.3 Developing ethical guidelines for AI and emerging technologies 11.6.5Building international solidarity networks 11.6.5.1Collaborating on global socialist software projects 11.6.5.2 Supporting technology transfer to developing nations

Organizing international conferences on socialist technol-

11.6.5.3

ogy

### 11.7 Visions for the Future

- 11.7.1 Speculative scenarios of software in advanced communism
- 11.7.2 Potential paths for the evolution of software engineering
- 11.7.3 Long-term goals for global technological development
- 11.7.4 The role of software in achieving fully automated luxury communism

### 11.8 Final Thoughts

- 11.8.1 The ongoing nature of technological and social revolution
- 11.8.2 The inseparability of software engineering and political praxis
- 11.8.3 Encouragement for continuous learning and adaptation
- 11.8.4 The collective power of organized software workers

- 11.9 Chapter Summary: Software as a Tool for Liberation
- 11.9.1 Recap of key points on software's revolutionary potential
- 11.9.2 Emphasis on the responsibility of software engineers in social change
- 11.9.3 Final call to action for engagement in revolutionary software praxis