UNIVERSIDAD NACIONAL DEL ALTIPLANO

"FACULTAD DE INGENIERÍA ESTADÍSTICA E INFORMÁTICA"



The Software CRISIS

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Course: SOFTWARE ENGINEERING

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1. Schames

- The "Software Crisis" describe a series of fundamental problems in the field of software engineering. Description \(\) - Was marked by a significant increase in software complexity and expectations of functionality and performance. during rapid computing growth. - Software projects often suffered significant delays, exceeded budgets, and resulted in defective or ineffective software. Impact of - Large-scale projects demonstrated the inadequacy of the Crisis ad hoc approaches in software engineering for handling scale and complexity. - The software engineering community began to develop and adopt structured lifecycle models like the waterfall model.

- Formal methods were introduced to provide a framework The Responses to Software the Crisis for specifying, developing, and verifying software within a Crisis $formalized\ system.$ - ALGOL
 - Pascal
 - Ada
 Promote data abstraction and encapsulation to facilitate writing modular and maintainable code - Served as a catalyst for the professionalization of Contributions - Adoption of structured methodologies, formal methods, and professionalization. The lessons learned during that period have shaped modern software engineering.
Its teachings remain relevant as the software industry continues to face new challenges and complexities.

Software Engineering

- Software Crisis Period of significant software development challenges.
- Fundamental Problems Core issues underlying the software crisis.
- Software Engineering Systematic approach to software design and development.
- Rapid Growth of Computing Swift expansion of computing technologies.
- Software Complexity Intricacy of software systems.
- Functionality and Performance Expectations Desired software features and efficiency levels.
- Traditional Development Methods Conventional software development approaches.
- Software Projects Endeavors to develop software systems.
- **High-Level Programming Languages** Languages simplifying coding and maintenance.
- Formal Methods Rigorous techniques for software specification and verification.