EDU[CAD]TION **STUDY GUIDE**

The History of CAD

Chapter 1, Lesson 1

SendCutSend

Why History Matters

- Studying the history of CAD provides essential context for modern design tools and practices.
- CAD evolved from simple sketches and drafting principles, which explains why most programs still begin with 2D sketches as the foundation of 3D models.
- Historical milestones show how CAD workflows developed to address real challenges, such as slow revisions and the need for broader accessibility.

Understanding the Foundations
CAD evolved from Simple sketches and drafting principals

Appreciating Modern Workflows
Milestones like Sketchpad and AutoCAD provide context for today's CAD systems

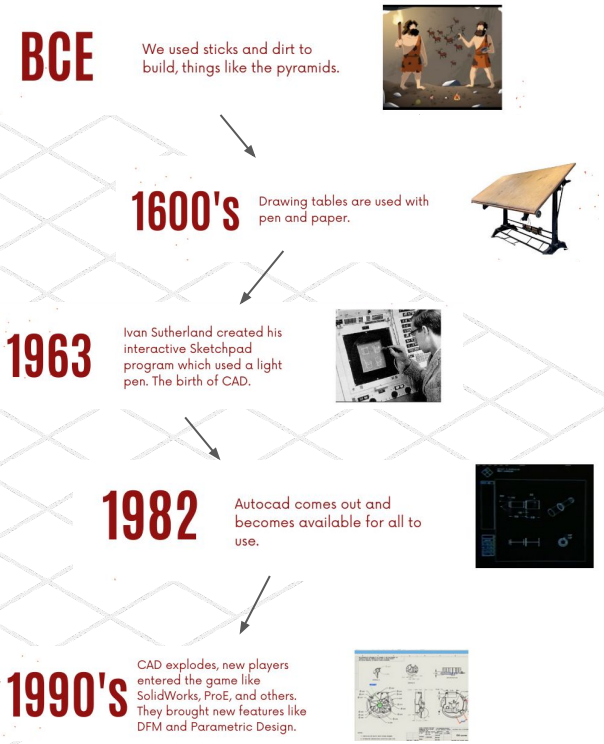
Context for Innovation
History shows how CAD solved past challenges and can inspire future advances

Building Adaptable Designers
Seeing the evolution of CAD helps learners embrace new tools and technoligies

Bridging Old and New
CAD's history connects traditional drafting with digital modeling

Key Historical Milestones

- **Before CAD:** Engineering once relied on pen, paper, and physical drafting tools. Revisions were slow, often requiring a complete redraw, and producing additional copies meant using specialized blueprint machines.
- **1960s:** Ivan Sutherland created the first CAD-like system using a light pen. This allowed computers to copy drawings. This was considered the birth of CAD.
- **1982:** AutoCAD was released, making CAD accessible outside of government and large corporations. It revolutionized engineering for smaller companies and individuals.
- **1990s:** New players like SolidWorks, ProE, and CATIA entered the scene, introducing features such as parametric design and design for manufacturing (DFM).



Core Concepts

- **Parametric Design**: Allows models to adapt automatically to changes in dimensions or features.
- **Design for Manufacturing (DFM)**: Embedding manufacturing considerations directly into CAD models.
- **Building Blocks**: The evolution of CAD mirrors the learning journey, starting with simple sketches (lines and circles) and advancing toward complex, rule-based modeling.

Summary

CAD has evolved from pen-and-paper drafting to computer-driven parametric modeling. This knowledge highlights the importance of mastering basic sketching skills as the gateway to advanced CAD designs.

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