

# SMARTPAPER:

An Interactive and User  
Friendly Sketching System

Presented by Brian  
Williamson

Written by: Amit  
Shesh and Baoquan  
Chen

## Presentation Overview

- Introduction to the problem
- 3D rendering techniques using sketch based interfaces
- SMARTPAPER's features
- Processing Pipeline
  - 2D processing
  - 3D Geometry Reconstruction
- Feedback/Cutting/Joining/Rendering
- Conclusion

## Introduction

- It is natural to sketch out a 3D object conceptually
- Current methods involve taking a conceptual sketch and using a complex system (such as CAD) to create it
- A better design would be to allow the sketched interface to immediately translate to a 3D object





## Free Form recognition (TEDDY)

- Draw any design
- Used fewer gestures
- May want simple ways for primitive objects
- Algorithm may create “cartoon looking” models



## Gesture Rendering (SKETCH)

- Uses several gestures
- Simple to create primitives
- May be unintuitive (depends on gesture set)

	Three perpendicular lines create a cube.
	Two parallel lines drawn in the same direction create a cylinder.
	Two non-axis aligned lines that meet at a point create a cone.
	Two non-axis aligned lines that do not meet at a point create a truncated cone.

## 2D Graph Formation

- Proposed by Lipson (1996)
- Scanned in 2D sketches
- Built 2D graph information (vertices, edges)
- Render from graph

