




SIEMENS



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# Importing Models: Smart Features on Dumb Parts

Solid Edge University 2014  
May 12-14, Atlanta, GA, USA

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**SOLID EDGE UNIVERSITY 2014**  
Re-imagine What's Possible

#SEU14

# Agenda



- Introduction
- What is Feature Recognition?
- How they work:
  - Rounds
  - Chamfers
  - Holes
  - Patterns
  - Pattern of Patterns
  - Thinwalls
- Questions?

## Welcome! – A Brief Introduction

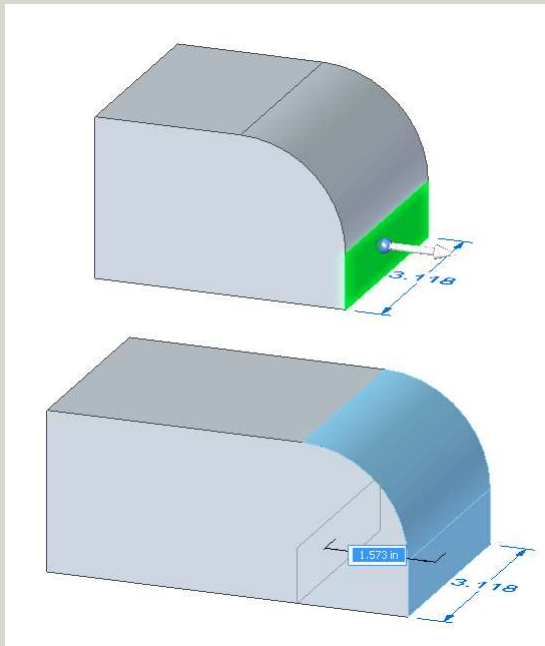
**Hello! My name is Chris Dayton.  
Here's a little information about me:**

- I've been with Siemens for 7 years. I'm in the Solid Edge Planning Department.
- I'm a second generation CAD-man. I played with the old Intergraph Clipper Stations when I was a kid . . . so I've see the technology develop.
- I have a Mechanical Engineering Degree from just across the street, at Georgia Tech . . . and an MBA.
- Among other places, I've worked for Siemens, NASA, BellSouth, Stanley Bostitch and even a fireworks plant.



# What is Feature Recognition?

The hallmark of Synchronous Technology is that we embed the “smarts” into the model.



Our Features allow powerful edits.

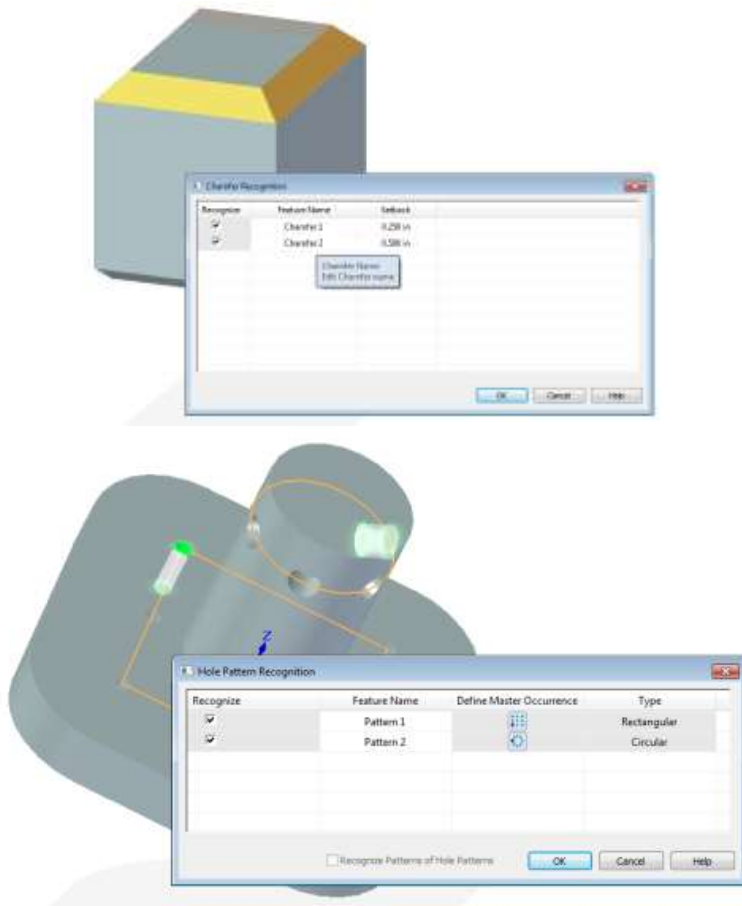
Which is great if you built your model in Synchronous Technology.

... But what if you didn't?

Synchronous Technology makes it easy to Recognize Smart Features on Dumb Models.

We do wonders on imported Geometry

# What Can be Recognized?

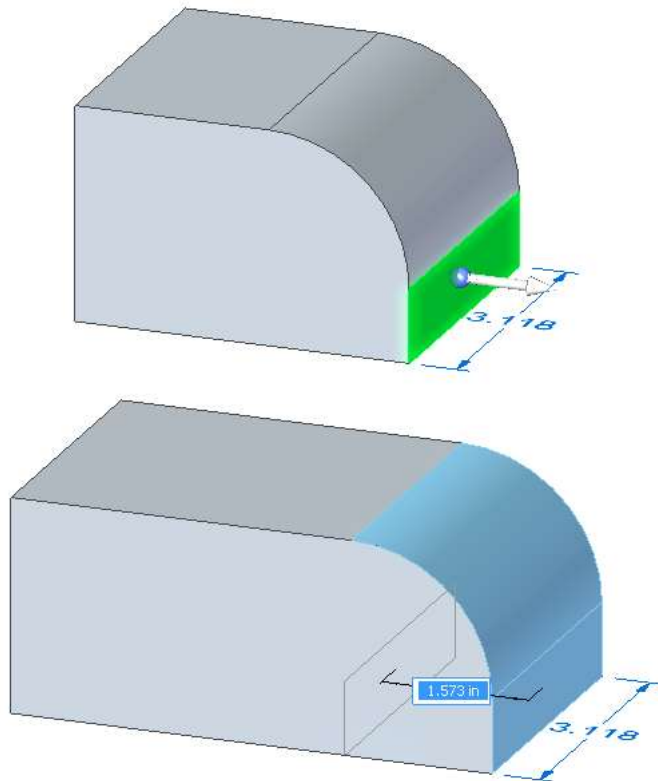


## Several Features can be recognized in Synchronous Technology:

- Rounds – Automatic
- Chamfers – Chamfer Recognition Command
- Holes – Hole Recognition Command
- Hole Patterns – Hole Pattern Recognition
  - Patterns of Hole Patterns
- Thinwalls – User Defined Offset Relationship

# Rounds

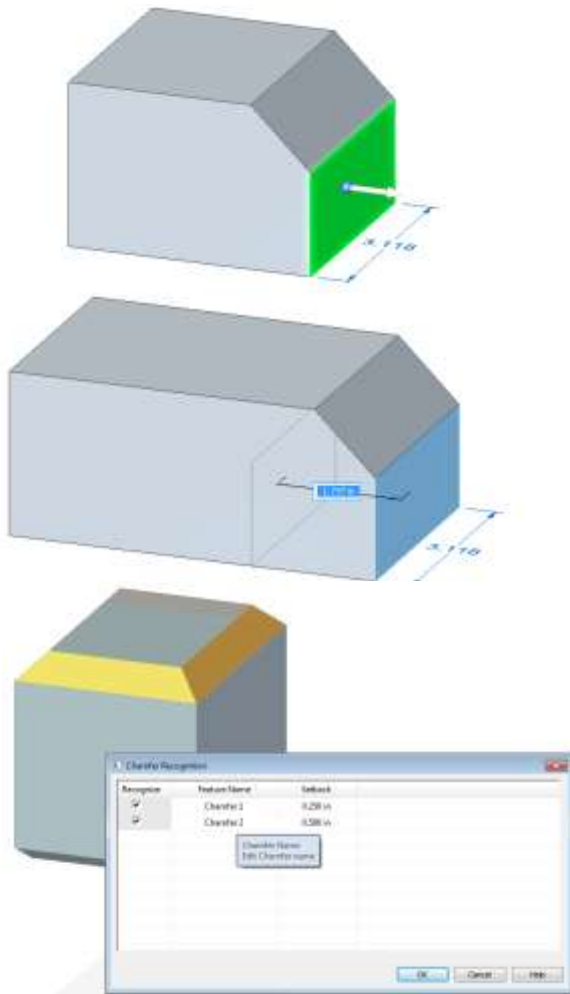
## Rounds are recognized automatically in Synchronous Technology (ST)



- Rounds exist in a model as an artifact of the geometry.
- They are Cylindrical or Toroidal surfaces which maintain tangency between their adjacent faces.
- They are  $\leq 180^\circ$  in sweep.
- ST automatically Recognizes Rounds and when an adjoining face is edited, we remove the round, move the face and then replace the round . . . Behind the scenes.
- From the user perspective it “just seems to work”.

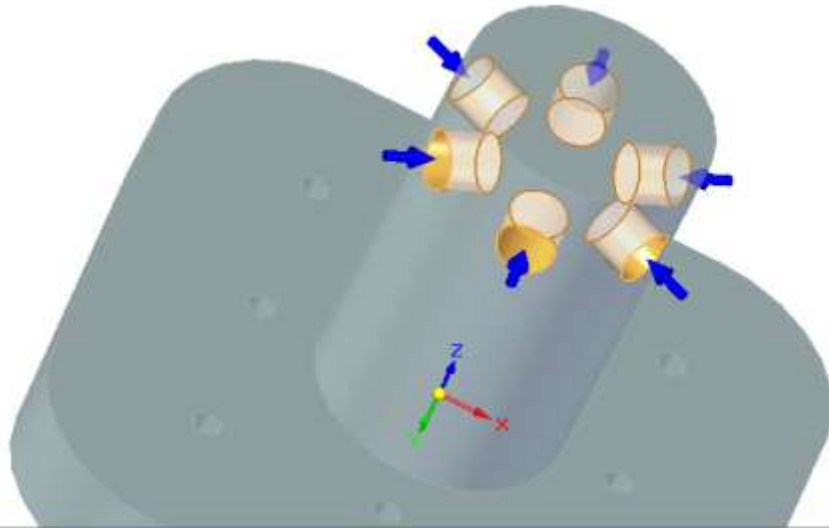
# Chamfers

## Equal setback Chamfers can be recognized in Synchronous Technology



- In a very similar way to Rounds, we can maintain Equal Setback chamfers in the model.
- The face must be “attributed” to behave in a Sync manner . . . But they can be easily recognized. Subsequent edits will also, “just work”.
- Recognize Chamfer is hidden under Chamfer Command . . . In the Round Dropdown.
- Identifies and allows you to maintain Chamfer Features.
- Equal Setback Chamfers only.
- Allows limited edit in Recognition step.
- Let me show you.

# Holes



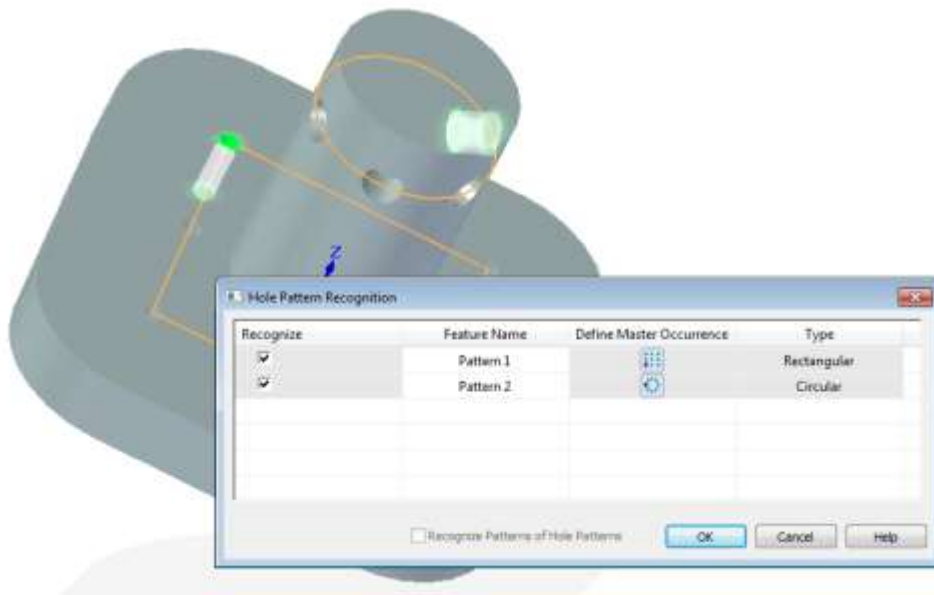
**Holes are essential . . . And we can find them.**

- Hole recognition is easy . . . Just push the button.
- Accept and modify results.
- Redefine Hole during Recognition step if necessary.
- Face selection available if you are looking to control the inputs.
- Radial Hole patterns work.

**Let me show you . . .**



# Hole Patterns



If you have holes which were created as parts of a pattern . . . We can probably Recognize that too!

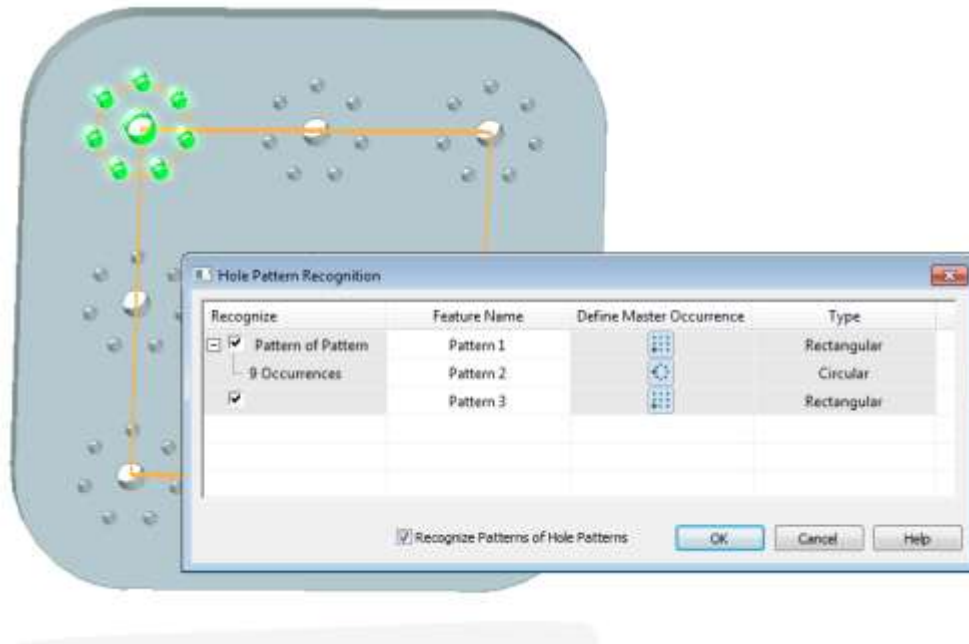
Holes MUST BE RECOGNIZED FIRST . . . Then pattern recognition.

Pattern recognition is a quick and easy way to get ST pattern behavior quickly.

You actually have to fence select candidates . . . We can sort out the junk.

# Patterns of Hole Patterns

**This is similar to standard Hole Recognition . . . But with nested pattern behavior.**

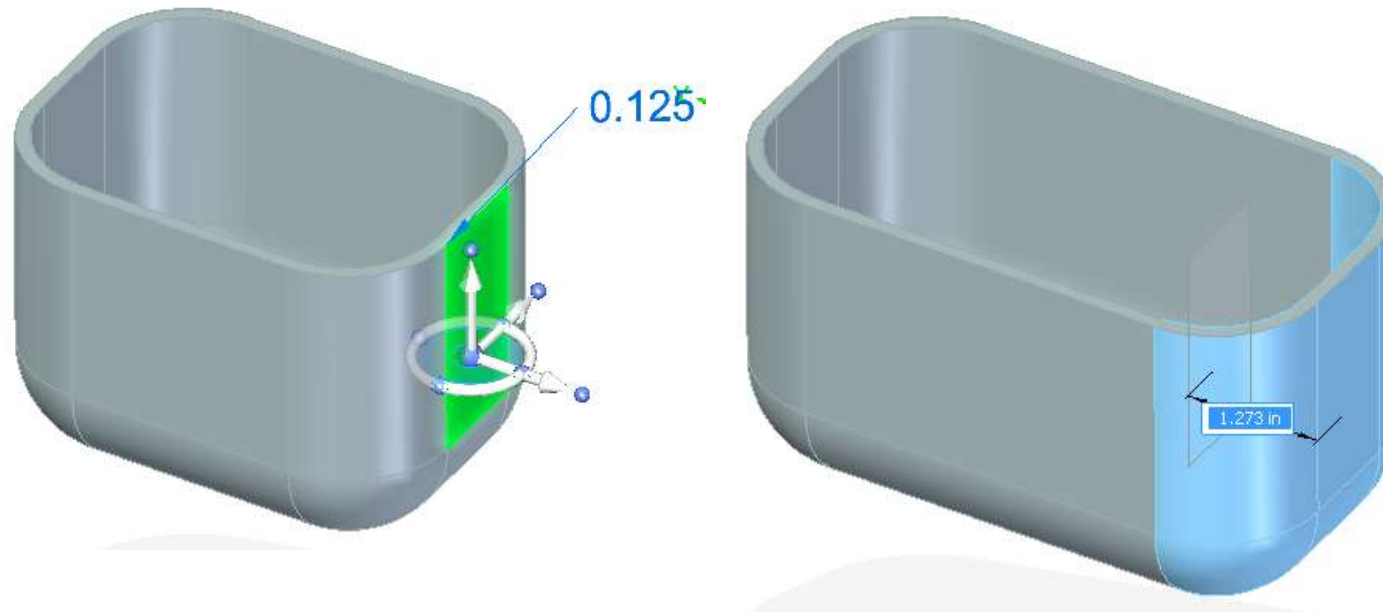


- Same workflow as Standard Pattern Recognition.
- Holes must be recognized first.
- Patterns of Patterns can be un-nested if desired.

## Thinwalls

### Thinwalls can easily be maintained in ST by placing a Persisted Offset Relationship.

This isn't Recognition per se . . . But it is how you can persist valuable offsets. Simply pair the desired faces using face relate . . . And it will behave just like an ST Thinwall.



# Questions?



# Contact



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A wide-angle photograph of a city skyline at dusk or night. The sky is a mix of deep blue and orange, with scattered clouds. Numerous skyscrapers are illuminated with lights, and the city streets below are lit up, showing light trails from traffic. The overall scene is vibrant and modern.

# Thanks!