Worked Example: Coordinate Conversions
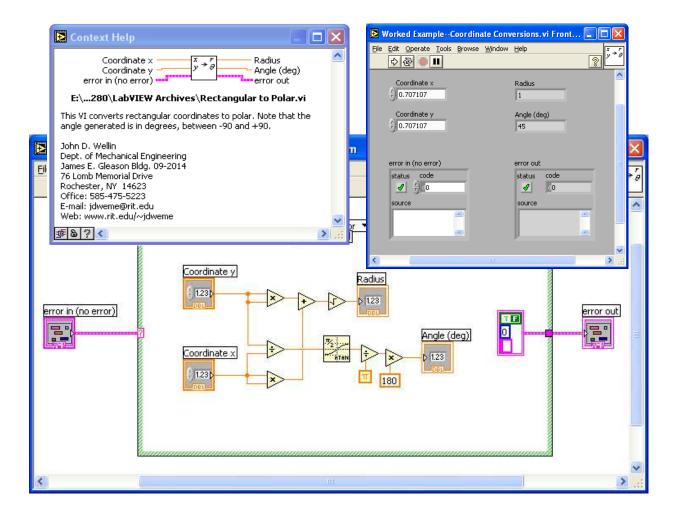
Rectangular coordinates *(x,y)* are converted to polar coordinates *(r, θ)* according to the geometric relations:

$$r = \sqrt{x^2 + y^2}$$
$$\theta = A\tan(\,y\,/\,x\,)$$

Create a subVI which performs the conversion. As general subVI characteristics, include the following:

- Appropriate terminals and a meaningful icon.
- Documentation of the basic features.
- Appropriate initial values in all controls and indicators.
- Error handling as applicable.