Projecting the orientation and position of near-Earth asteroids gives rise to awareness of both potential hazards and resources from these proximate celestial bodies. After observing Asteroid 355256 (2007 KN4) from Etscorn Observatory over the course of five weeks, its orbit can be modeled based on six classical orbital elements derived from the imaging data. Using the right ascension and declination of the asteroid determined through astrometry and photometry, the Method of Gauss coupled with Monte Carlo and differential correction calculated the asteroid's orbital elements, position, and velocity vectors. These calculated values agree with those of the Jet Propulsion Laboratory (JPL). Although all three methods used to calculate these values are useful to their own advantages, the Method of Gauss with Monte Carlo proves to be most effective due the generation of a range of accurate data that are applicable to predict the long-term behavior of asteroids and converge within the expected error ranges. The final orbital elements are calculated as:

a = 3.307 AU
e = 0.627
i = 12.686°
Ω = 232.669°
ω = 50.629°
M = 0.619°