## Acceptance Criteria

BioRubeBot Project

Summer 2015

1. Control Functions
   1. Does the Start button start the simulation?
   2. Does the menu button display the menu options correctly?
   3. Does the Play button cause the objects to begin to move?
   4. Does the pause button cause the simulation to temporarily stop?
   5. Does the Fast Forward button increase the simulation’s speed?
2. Object Spawn and Movement
   1. Does the signaler spawn/move correctly?
      1. Signaler should only spawn outside the cell.
   2. Does the Receptor spawn correctly?
      1. Receptor should snap to a position perpendicular to the cell wall.
   3. Does the ATP spawn/move correctly?
   4. Does the G-Protein spawn/move correctly?
      1. The G-Protein should spawn with a GDP attached.
   5. Does the GTP spawn/move correctly?
   6. Does the Kinase spawn/move correctly?
   7. Does the Transcription Regulator spawn/move correctly?
   8. Does the Cell structure spawn correctly?
      1. This includes both the membrane and the nucleus.
3. Object Interactions
   1. Signaler
      1. Does it link properly with the receptor?
   2. Receptor
      1. Does it receive the signaler?
      2. Does it follow its transform protocol to prepare to receive the phosphate from the ATP?
      3. Does it receive the phosphate from the ATP?
   3. ATP
      1. Does it drop a phosphate on the receptor’s leg?
   4. G-Protein
      1. Does it link to the receptor’s phosphate properly?
      2. Does it drop its GDP after it picks the phosphate up? (GDP is fades out at this point.)
      3. Does it pick up the GTP after it drops the GDP?
      4. Does it target the Kinase then it’s in this “fully activated” state?
   5. GDP
      1. Does it release properly from the G-Protein?
   6. GTP (combination of GDP and Phosphate)
      1. Does it link with the G-Protein correctly?
   7. Kinase
      1. Does it link with the activated G-Protein correctly?
   8. Transcription Regulator (T-Reg)
      1. To Be Determined