CPSC 131, F16 GUI Project Form

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| Name (s)  Dan Crisp |
| Title of the project:  Ion Trajectory |
| Objective  To calculate the trajectory of a single Ion, based on user’s input conditions (X,dX,dY), and the strength of a dipole.  Extra work could be done by: including another dimension (X,Y,dX,dY,dZ), and—better still—simulating the 3d trajectory through a magnetic solenoid. |
| Equations used:  Lorentz force equation [ F = q \* (v x B) ], which allow for a calculation of motion based on magnetic field, charge, mass, and velocity.  Will be non-relativistic, assume a uniform field within the dipole, and neglect space-charge effects. |
| Figures and calculation to show in your project   * Input fields for initial conditions * Plot to display ion’s trajectory through dipole, as well as the outline of the dipole itself * Slider to allow user to adjust the dipoles strength * Pushbutton to re-calculate trajectory |
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