

Main Window:

The main window contains all the controls needed to use the application.

To begin playing, select a function from the *Functions* box. The *Easy* functions are low order polynomials. The *Medium* functions are higher order polynomials. The *Hard* functions are complex transcendental functions.

Once a function has been selected, click the *Start* button. Now begin

placing points in the bottom view that correspond to the slope of the function in the top view. By moving the slider, a line tangent to the function will be displayed. The values for x and $f(x)$ are displayed in the text fields in the upper right of the window. By typing text directly into the x position text field, the x position (and thus the slider) may be set exactly.

If a point is placed in the wrong position, click the *Undo* button to remove it. By recursively clicking the *Undo* button, all points may be removed.

A maximum of ten points may be placed in the bottom view. Once satisfied with the placement of the points, click the *Stop* button. This will

display the actual derivative curve in the same view with the estimated points. Additionally, a score will be calculated based upon the accuracy of the points. A score of 100 is perfect (and practically unachievable.) A score in the nineties is a good score.

The game need not be played to use this application. Simply click the

Start button then click the *Stop* button to reveal the derivative curve immediately. Then use the slider to carefully study the relationship between the function and its derivative. The the slope ($f'(x)$) will be displayed along with x and $f(x)$ in the text fields in the upper right of the window.

