**Graphing Tool (1A version)**

**DEVELOPER COMMENTS**

* At time of initial delivery
* After Alpha review
* After Beta review
* Final delivery (if there is a 3rd round)

**INSTRUCTION OVERLAY:**

**Initial Review Comments/Wireframe - LIM**

NAME: Christophe

DATE: 11/12/13

**DISCLAIMER**: The item was delivered as a zipped package that could only be reviewed on a desktop. As a result, the review below was done on a MacBook Pro Intel Core 2 Duo running Mac OSX 10.6.8. The interactive was tested in Chrome version 29.0.1547.65)

Things that need to be fixed/added FOR the 1A version:

1. the implementation of a zoom function is good enough as a first step towards controlling the range of the axes. However, the zoom out does not go far enough. From the starting point, I can only tap on it once. It maxes out straight away (meaning I can zoom out any longer). I imagine this is because the intervals (blue lines) are always set to 1 and they are getting to close to one another. However, the max range for the lean version should be –500 to 500, which the current design does not allow. To allow for this range, some of the blue lines will have to disappear (intervals will change).
2. a keypad should pop up to allow the user to type the equation. Aptara probably already as it since Ken has been working on it with the various vendors. The keypad must include all the numbers plus the following symbols and variables: + – × ÷ ( ) . = xy, as well as have a close button and a back button (ideally the user should have the ability to position the cursor WITHIN an equation already written to erase a single character within the equation with tht eback button rather than having to erase everything from the end backwards all the way to the character that needs to be altered... but that's not a deal breaker if this feature is not available at this time)
3. Note: ideally the keypad should also allow the user to type fractions in their stacked form (vinculum)... but as mentioned previously, we could live without this if it were very difficult to implement.
4. clarification of your second bug reported (minus sign doesn't work after =. The en dash (–; which is the proper minus symbol) indeed doesn't work, however the hyphen (-; unofficial minus symbol) does work. The en-dash should be the one used on the number keypad, not the hyphen.
5. - Improve the overall look and behaviors of buttons, etc. For instance:  
   (i) the + and – buttons for the zoom should use iconography (e.g. 2 looking glassed with the + and – symbols in them)  
   (ii) equation input fields: currently, when the user types enter, a new line appears within the input field. Instead the line should appear on the graph. There is no need for a second line of text within the input field. There should only be 1 equation per field. I am not sure how the user will let the system that that equation is ready to be graphed.  
   (iii) There must be a 'graph' button somewhere to allow the user to determine when the equation is ready for graphing. Currently the user needs to tap on the coordinate plane. This is not great. The button could be either in the keypad itself or at the right end of the equation input field. I think that the latter would be better.
6. the various lines should be colored for easy identification. A color square is shown at the left end of each equation input field. The system automatically assigns a color to each box. Each graph is shown in the color matching that of the square box by its equation input field. In this lean version for 1A, there is no need for the user to control the color of the lines. This can be entirely controlled by the system.
7. do not make the coordinates of the points of intersection appear by default. Several activities ask of the students that they identify those coordinates, therefore we do not want to provide them immediately. That being said, the feature is still nice. The user should be provided with a button that allows them to make the coordinates appear/disappear on demand.
8. when the user changes the equation of a line in the equation input field AFTER the line has been graphed, the corresponding line should automatically update to match the revised equation. Currently, the OLD line stays visible, a new line is added to match the updated equation.
9. Each equation entry field must include a delete button (right side, by the graph button?) to allow the user to delete individual lines. When the delete button is tapped, both the equation and its corresponding graph are removed from the screen. The entire equation input field should be deleted (if there are input fields below, they are shifted upwards to fill in the empty slot).
10. the x- and y-axes need to be labeled with intervals values.

**Alpha Review - LIM**

NAME:

DATE:

CRITICAL FIXES:

1. [Enter each issue here as a separate number]

Tier 2 (if any, if there is time):

**Alpha Review - MV**

NAME:

DATE:

ADDITIONAL CRITICAL FIXES:

1. [Enter each issue here as a separate number. If you have a suggested modification to any of LIM’s fixes, please reference the number in their list above]

Tier 2 (if any, if there is time):

**Beta Review - LIM**

NAME:

DATE:

CRITICAL FIXES:

Tier 2 (if any, if there is time):

**Beta Review - MV**

NAME:

DATE:

ADDITIONAL CRITICAL FIXES:

Tier 2 (if any, if there is time):

**FINAL Review - LIM**

NAME:

DATE:

APPROVED? (yes/no):

IF NOT, CRITICAL FIXES:

Tier 2 (for future version):

**FINAL Review - MV**

NAME:

DATE:

APPROVED? (yes/no):

IF NOT, CRITICAL FIXES:

Tier 2 (for future version):

**FINAL Review - Stakeholders**

NAME:

DATE:

APPROVED? (yes/no):

IF NOT, CRITICAL FIXES:

Tier 2 (for future version):