Activity 1: Hex Hacking

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Group No: 27

Group Member:

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3.   Ittipat Yodprasit

Part 0: Preparation

- Download "Activity 1 Resources" from CourseVille.

- In Part 2, each group is assigned to work with the files: [YOUR_GROUP_NO].bmp, and

  [YOUR_GROUP_NO].gif in "02 Pic" folder

- Answer the questions in the box given and submit this file (.docx format) to CourseVille.

Part 2 : Image Representation

BMP Image Representation

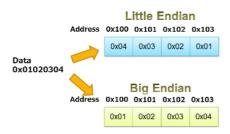(Use the file name: [YOUR_GROUP_NO].bmp in "02 Pic" folder)

1.   Use "File Explorer" to observe the file

   - What is the file size (in bytes)?

822 bytes

   - Write the file size using a 2-byte Hexadecimal Notation.

03 36

2.   Open the BMP file assigned to your group in HexEdit

   - Under the "Template" menu item, apply the template you think will help you analyze the BMP file format.

   - By observing the Hex content of the file, explain at least 2 ways to know the size of the file in bytes. Is the size similar to what can be seen from "File Explorer"? (Hint: file size showing with little endian byte order)

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- Using bmp template -> Windows_bitmap -> infohdr -> size to see the bytes containing the size data.

-Counting the total bytes in the Hex-Edit File

- • What is the dimension of the image, and how can you find it in HexEdit?

-Using bmp template -> Windows_bitmap -> infohdr then check width and height and convert to hexadecimal = 16 * 16

- • What does the content at 01C - 01D represent?

Bitcount value

- • Explain how is the color of a pixel encoded?

Using the Color-hex system, 3 bytes representing a specific color

- • What is the RGB value (in hexadecimal) of the color used for the background in the image file?

FF00D2

- • What is the RGB value (in hexadecimal) of the color used for the outline of the shape in the image file?

FFFFFF

3. Edit the Hex content of the file so that the shape is filled with a color of your choice that is different from the color of the outline and the color of the background.

- • Explain the steps you did in completing the filling.

Replace the background hex (FF00D2) with a green color hex(00FF4E) and replace white outline hex(FFFFFF) with black color hex(000000)

- • Save the new image with different filename. Insert the image (both original and edited version) in this answer box.

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