



# **FOUNDATIONS of DIGITAL ART and DESIGN**

## **Section 1 Notes**

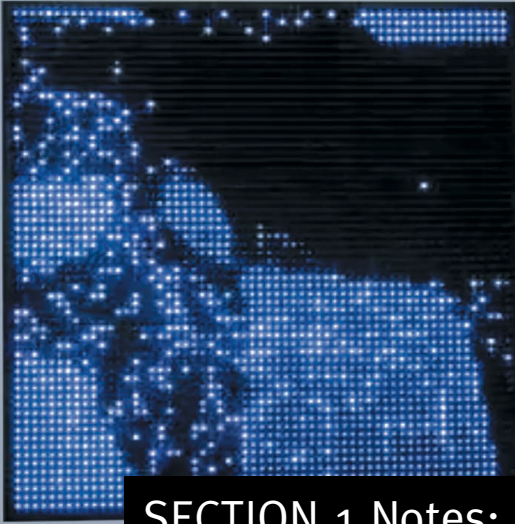




## SECTION 1



# **BITS, PIXELS, VECTORS AND DESIGN**

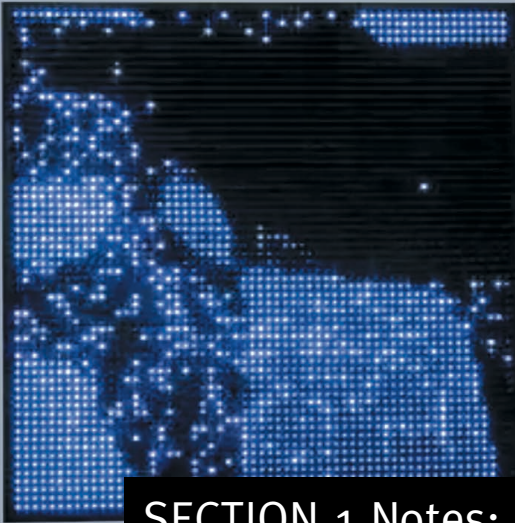


## SECTION 1 Notes:



NICHOLAS NEGROPONTE

“Being digital has four very powerful qualities that will result in its ultimate triumph: decentralizing, globalizing, harmonizing, and empowering”



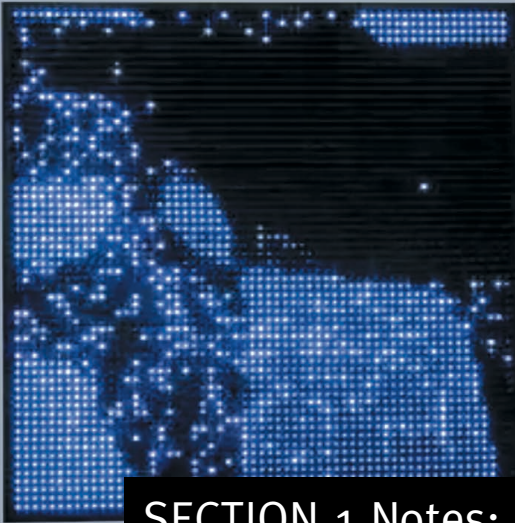
## SECTION 1 Notes:



### PIXELS & VECTORS

- Pixels, a combination of the two words, “picture” and “element,” are discrete units of color information.
- Vectors are mathematical coordinates.



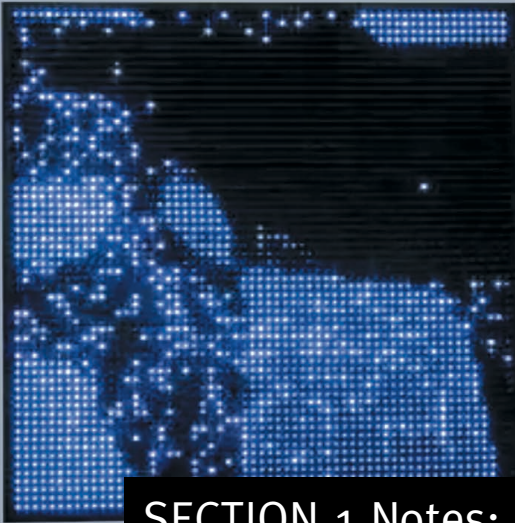


## SECTION 1 Notes:



### PIXELS & VECTORS

- Pixels are the basic elements comprising bitmap images. Photoshop is primarily a pixel-based application.
- Vectors are plotted with anchor points. Illustrator is a vector-based application.

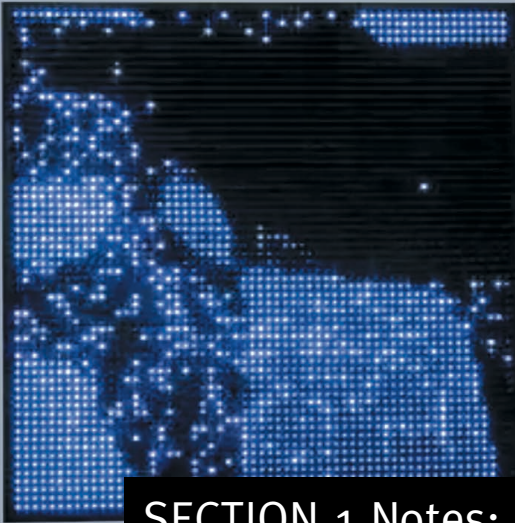


## SECTION 1 Notes:



### PIXELS & VECTORS

- Pixels are finite. The number of pixels accrued when scanning or making a digital photograph directly impact the final size of the graphic.
- Vectors are infinitely scalable.



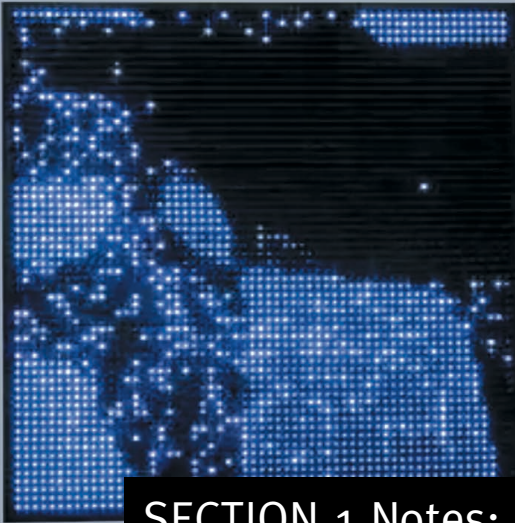
## SECTION 1 Notes:



### PIXELS & VECTORS

- Pixel-based images can display a texture that sometimes reads as “digital noise.”
- Vector-based images typically appear flat and smooth.





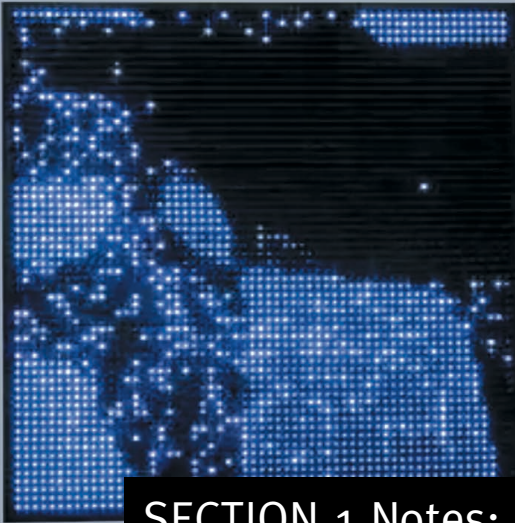
## SECTION 1 Notes:



### DOTS & BITS

- The bit is the most basic element of digital computing.
- It can be used to indicate a binary relationship, such as the dyads *on* and *off* (or *present* and *missing*)





## SECTION 1 Notes:

### DOTS & BITS

- The dot is the most primary visual mark.
- It can be used to point to something on the page, or to indicate, like a bit, that something is *on* or *off*, or *positive space* and *negative space*.
- Like all elements, dots can be grouped to form larger shapes or images.

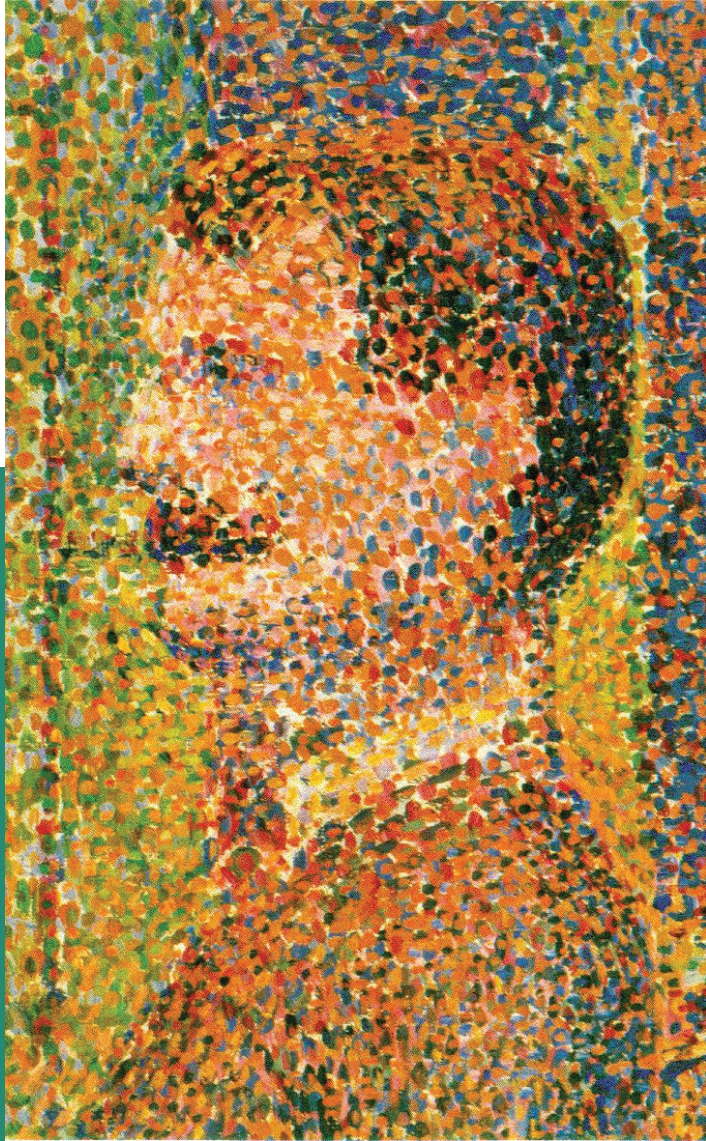




“I am interested in lowest common denominators such as pixels or the zeros and ones in binary code.”

**Leo Villareal**





The digital halftone also makes use of the illusory effects of placing small dots of color near enough to one another to express a photorealistic image.

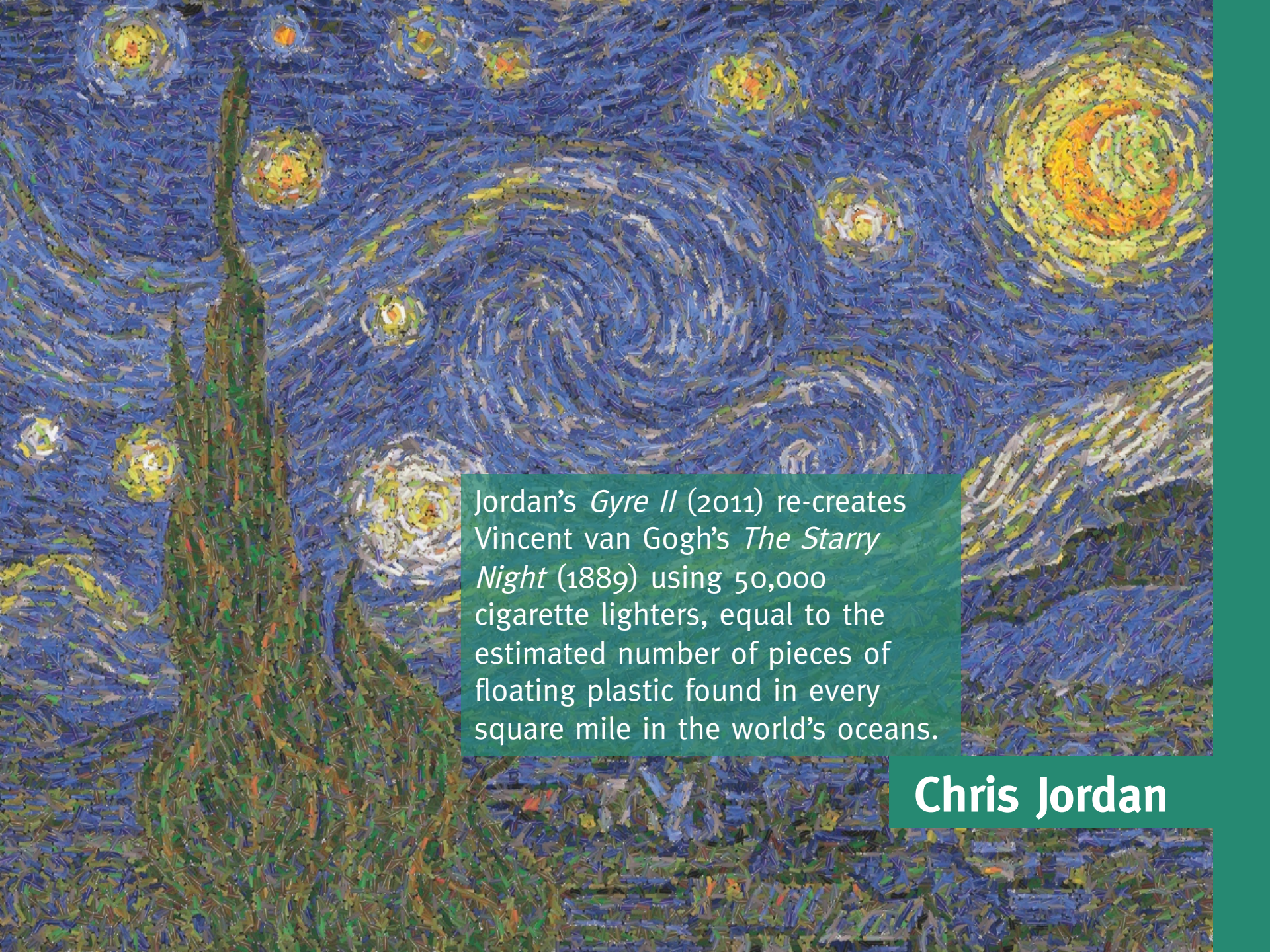
**Georges Seurat, 1889**



This logo for a restaurant specializing in fish dishes was created with a series of dots that are present and missing in order to form the letter “r.” Coincidentally, the name of the restaurant, Roe, is also the name of a fish that appears as a series of small, orange dots.

**Roe**

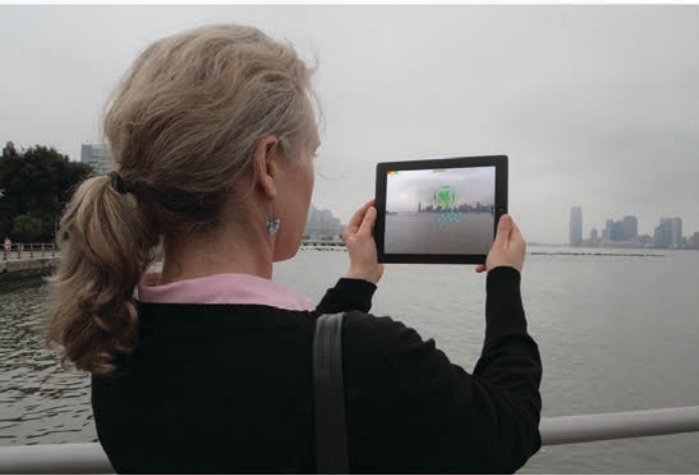




Jordan's *Gyre II* (2011) re-creates Vincent van Gogh's *The Starry Night* (1889) using 50,000 cigarette lighters, equal to the estimated number of pieces of floating plastic found in every square mile in the world's oceans.

**Chris Jordan**

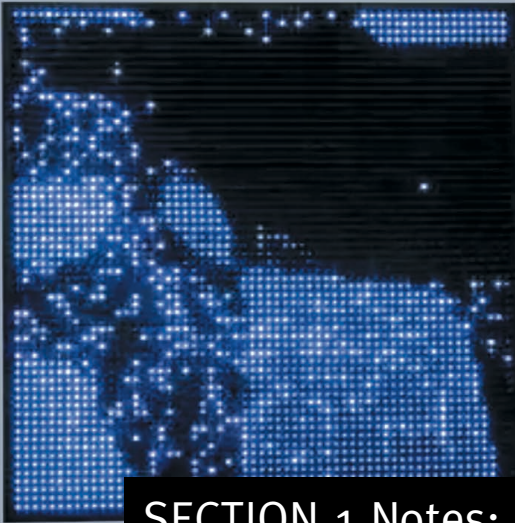




Meredith Drum, Rachel Stevens, and Phoenix Toews' *Oyster City* is an augmented reality game and walking tour. Notice how the dot is used as a graphic marker (lower left) in the game's interface.

# Oyster City






## SECTION 1 Notes:



### LINE

- A line has an anchor point indicating where it starts and where it ends.
- Maggie Macnab calls these anchor points “poles.” Poles are repulsed from and allude back to each other.
- A line can be used to join two elements or to separate parts of a layout.

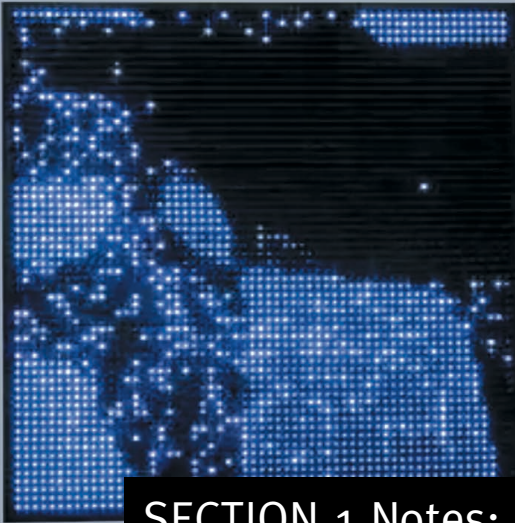




DeLappe's *The Artist Mouse* (1998) cleverly and literally traces mouse movements while “the artist” uses the contraption. DeLappe’s project is an analog response to one of the earliest digital interface challenges: how to track the cursor’s position on the screen.

**Joseph DeLappe**



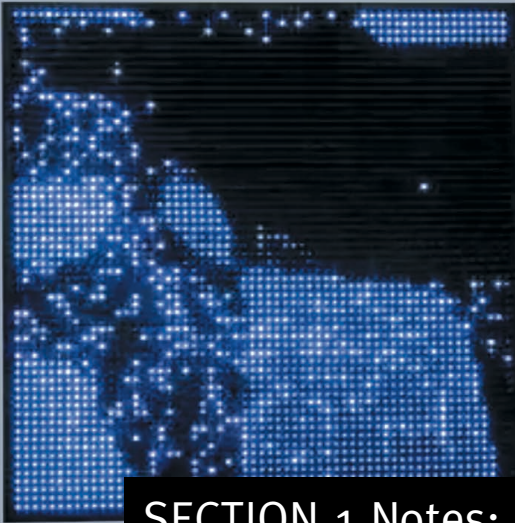


## SECTION 1 Notes:



### SAVING AND SHARING FILES

- A file made in Adobe applications should always be saved in its native format (ie. the application where it was made).
- In addition to the native file, you should save a compressed file for sharing, such as a PDF or JPG.



## SECTION 1 Notes:



### FILE NAMING CONVENTIONS

- Always use lower case letters
- Do not include spaces in the file name
- Do not use special characters (#, \$, \*, and so on)
- Include the file extension (.psd, .jpg, .pdf, and so on)