**fractal geometry:**
A tactile exploration through visual media

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**abstract**
Mathematics and art are considered by some to be in opposition. Math is perceived to be intimidating to artistically creative people. There are many visual elements in math most creative people are unaware of.

Fractals are mathematical patterns that infinitely repeat and have strong connections to nature and applications. In this book the presentation will be on the design of an interactive print book, with an electronic tablet companion to demonstrate how these tangible components can make learning mathematical concepts an accessible and rewarding and enjoyable experience.

The way in which a medium can convey research affects how wide an audience it can reach. Through paper-based interactive elements housed in the book, including overlays, labeled reveals, and paper folding, math concepts become a handle-on experience that facilitates learning and makes math a visually interesting and interactive experience for anyone, regardless of their knowledge of mathematics.

This project was for completed for my senior thesis in Graphic Design over a course of ten weeks.

**system map**
The book is divided into two sections: Structure and Relevance, that further break down into two subsections.

**STRUCTURE**
- Explains what fractals are and how they were discovered, and how they are created.
- All of the interactive elements are housed in these chapters.

**RELEVANCE**
- Applications: Nature and Applicability - This is the second section, which moves away from the previous visual experience (less interactively than the first half). It explains where fractals exist in nature and how they are important to other elements of our lives.

**icon system**
Icons used throughout the book to introduce concepts that show up in multiple places. There is also a green, the color used for interactivity, Arno to indicate where you can use an iPad to digitally experience fractals.