Proposal:

* Use vision to Think

This project plans to create an exploration environment. The best way to understand complex data structures is to see them in action. We are developing interactive animations for Fibonacci Heap visualization.

* Goal

We demonstrate the data structure with random initialization and provide users to input the data and produce the structure on their own.

This visualization tool provides complete Fibonacci Heap animation, such as Decrease-key and Extract-min functions as long as Insert and Delete operation.

When demo Dijkstra Algorithm, we provide a couple of choices, like a binary heap, Fibonacci heap, and so on. With Fibonacci Heap, the Dijkstra algorithm improves its performance with the ordinary binary heap. We can show the time comparison.

* Tool

Our visualization tool is written in JavaScipt using React.

* What I can do
  + implement the data structure in js.

Fibnacci Heap Visualization

insert()

delete()

Extract-min()

Decrease-key()

* webpage, UI
* animation (studing)
* framwork not familiar(studing)