STATEMENT - 400 Words

CALCULATION TOWER

An iconic landmark for San Jose, "Calculation Tower" is a mechanically-animated tower inspired by the cogged-wheel columns of the earliest computer, Charles Babbage's "Analytical Engine", for which Ada Lovelace coded the first software. Measuring 200 ft tall and 80 ft in diameter, the structure consists of circular concentric platforms that can rotate independently and form a bulbous observation tower. The shape of the tower is reminiscent to the seed pods of the California's poppy and also a variety of Mexican traditional instruments, like a "Molinillo" chocolate whisk or the "Balero" cup-and-stick toy.

Protruding from each circular platform are dozens of individual "glass cogs", —cantilevered prismatic rooms where visitors can get a rotating panoramic view of San Jose and other visitors. Each room can accommodate up to 3 people who are suspended in mid-air surrounded only by a transparent glass ceiling, floor and walls. Visitors may stand, kneel, lie down or just peek inside, —if people lie down they become "human gargoyles" projecting from the observation bulb. Once inside a glass room, visitors can see San Jose slowly rotating in front of them and ignore everything else, or they can also see other people in cogs which are under and over them rotating in different directions and speeds: this creates an unprecedented relational experience where eye contact establishes a shared experience and intimacy.

Three elevators and a staircase take people up the stem of the tower and into the bulb. The elevators are glass-walled: as visitors go up the stem they only see the interior rough-concrete but as they arrive at the bulb the light coming through the prismatic rooms fills, and tessellates over, a vast spherical interior space. This space is interconnected by ramps and stairs so that visitors can go to any of the five different rotating levels.

The tower calculates very slowly using 24-cog tetravigesimal radix which can rotate clockwise and anticlockwise with a minimum speed of zero and maximum speed of one full rotation every 30 minutes. The mechanism for calculation is based on Raymond Llull's concentric rotating circles and Newton's divided differences algorithms. Even though the movement of each level is very slow, the fact that the 5 rings rotate independently and at different rates means that the experience is constantly changing. The Calculation Tower constantly calculates pi to different levels of accuracy using Ramanujan-Sato recurrent series feeding sequences of integers.