

Maze-dar

A solar maze in Masdar

The labyrinth is an algorithmically designed and generated public space that generates energy through solar radiance and the piezoelectric pavements that transforms the kinetic energy created by the pressure applied on pavements by the people walking on them. The fractured sculptural concrete structures support the solar panels placed on flat top surfaces and contain the batteries necessary to store the energy produced by the solar panels which are the main source of the renewable energy production in the complex.

Generated by a mathematical path finding algorithm, the path is actually a single continuous curve that connects every single point on an imaginary grid within the site boundary. By computing the curve that has the maximum possible length in this conditions, the amount of pavement tiles placed on the path is also maximized to produce maximum amount of piezoelectricity. Having a single continuous path also can create a tendency on people to walk all the way from the start point till the end point to see different spaces, intersections or simply to make a complete tour. So, the whole design process, even including the human activities is based on increasing the efficiency of the space which is a hybrid of pure mechanical function and human recreation.