Abstract

This thesis is based on a fascination for infrastructure buildings and the physical impact the Internet creates on the cityscape.

The city centre is littered haphazardly with loose parcels of land which hold common infrastructure including telephone exchanges and PowerGrid substations. These spaces are sometimes over-generous but frequently oblivious to the immediate environs. As city landuse intensifies, more thoughtful uses of leftover spaces like these will need to be re-considered.

The Internet introduced the need for a new form of infrastructure and also new occupational spaces into the city. The event is marked by many specialty buildings of which the more important ones are those that are solely dedicated to providing data movement and storage - a data centre.

The present incarnations of data centres are relegated to specific parks like the Science Parks and the International Business Park due to the pre-laid and extensive infrastructure (cabling, networks and power requirements). Newer data centres are fanning out into other industrial areas like Chai Chee and also at the housing estates like Tampines (SingTel Teleport). These building types are anonymous, mysterious, do not account to the public (not necessarily open to the public) and non-inferable from the external (heavily internalised). Architecture can give face to the anonymous.

The new occupational spaces (apart from data centres) created by the Internet industry, are often unbounded (ie. not entirely desk-bound) and spontaneous, interactive and communal, unpredictable and exciting. These working spaces challenge normalized offices.

With many firms vying to provide broadband services to the city business district, the logical progression is to build a data centre in the city. The site for such a building will however be subjected to intense scrutiny as technical requirements are of the foremost concern.

Hence, the objectives of this thesis are:

1. to realize the potential of re-using existing leftover spaces situated within designated utility parcels in the city centre.

2. to attempt to synergize the various aspects of these new occupational spaces into a single building capable of housing them holistically.