House of Arts and Culture. The open arte-fact

This project aspires to be a pivotal time in the city of Beirut, generating a renewal of social and cultural ambitions. In this context, the House of Art and Cultures in Beirut is envisioned as a laboratory, as well as an artifact, a machine to produce art. The scheme has a focus on creating a building environment which will be an essential and significant site for social and cultural regeneration. Movements within the building will be free and open, different functions float in space, spaces are flexible and exposed. The building integrates indoor and outdoor, nature and technology, programmed and spontaneous to create a world of media, exhibition and creation.

Urban objectives

The HAC enhances the dialogue between building and the city through use of some urban strategies:
The scheme pushes back the building at the ground floor of the site. This creates a **larger public plaza**, enhancing the qualities of openness, permeability and encouraging pedestrian flows into the building. The arte-fact is conceived as a series of planes which morph into differing perimeters at every floor, thus creating **openings and terraces**, increasing the surface of the skin, the contact with the city.
The northern side is the main entry for pedestrians. An entry lane towards the western side of the site allows vehicular access and deliveries allowing the north and eastern sides to be completely open to the public. The building skin can be utilized as a screen onto which the activities inside the building can be projected. In this way the building creates a dialogue with the city, where internal activities are a reflection of Lebanese art and culture, and conversely this knowledge is distributed via the building façade.

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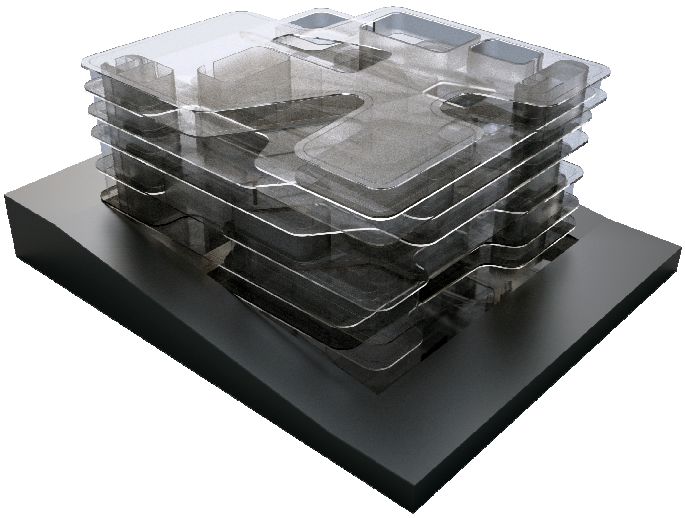
Architectural objectives

The core idea of the scheme hinges upon the building being a framework, a series of slipping planes, within which independent pods are inserted. This framework provides interstitial spaces and behaves like a test tube rack. Each pod encloses a distinct function, offering enclosure and seclusion amongst the backdrop of the framework. These pods extend vertically, linking different levels of the building together and provoking the exchange of ideas between the different disciplines.



The organic shapes of the pods emphasis a fluidity of interstitial space and allows for informal activities, spontaneity, and random exchanges, which creates an intensely intellectual and playful milieu.

The translucent volume that unifies all the functions inside and in an outside the space brings new spatial qualities. Whether you go there to attend an electronic music workshop, walk through an exhibition or to enjoy a performance by a visiting theatre group, you will feel the presence and impact of the other activities taking place under the same roof, all hours of the day.

Negative pods are interspersed throughout the building in the form of terraces and patios. They subtract mass from the building structure, creating opening in slabs and ceilings allowing for open air terraces which filter light to the building's many program. These terraces also become green spaces allowing for foliage and natural growth.

Permeability/porosity on the perimeter creates and intriguing and appealing elevation, an osmotic layer, which encourages users to explore the inside. The building is illuminated and glass louvers cover the entire façade, making transparent the interior activities. Individual program pods are enclosed in tubes of different materials and textures, reflective of their function within the building. From the outside, pedestrians can see the colors of the internal pods tinting the façade glass, and the subtle reflections and refraction warps of the louvers, thus providing a dynamic and contemporary appearance as one walks past.

Functional and spatial organization

The organization of the building provides more public functions at lower levels to more private in the upper ones. Insertions of pods are shaped with specific interest to the circulation and program organization around them. In addition, the façade perimeter creates spaces that are more intimate or more open depending on programmatic needs.

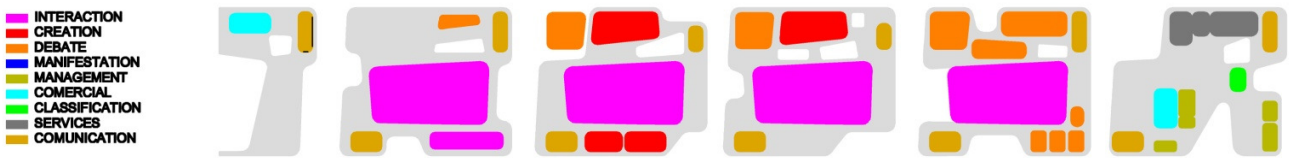
The main **entrance** is along the north, on Rue Ghalghoul, where pedestrians meander past the foyer and main hall, up past the café and exhibition areas and exit at the south west corner. The two streets are visually connected by a changing patio, and crossing the stairs reveal the different programs.

The **main performance hall** is the largest pod, extending over six levels, and effectively linking the entire building via one entity. It is situated in the middle of the building since there is no need for natural light, thereby allowing flexibility in the organization of other programs around it. This adds difference and dynamism to all four facades of the building and to its interior spaces, as it is constructed in an irregular shape, what helps with acoustic and visual demands. Amenities, foyers, dressing rooms and space for mechanics facilitate the operation of the main hall and are tucked in residual spaces around the hall.

The **exhibition space** overlooks the city above the motorway. A hole in the south west corner of the area penetrates the floor slabs up to level 5, to create a multi storey area for extra large pieces of art. Light can be easily controlled by the façade louvers in order to protect exhibitions or black out the space.

The **documentation centre** spans the space around the main hall and cinema on level four. Programs such as reading, study room, and shelving are distributed to create a quite comfortable and contemplative space. The surrounding walls of the **workshops** on the upper level move to avoid reverberation created by the internal classes and the headroom of the spaces is variable depending of their use.

While the **restaurant** is a public program, it is located on the top floor to profit from views of the city high up in the building. The **administration** area is also on this level, and to maintain privacy, patios and green areas separate the two functions.



Technical Construction Solutions

Machinery, equipment and acoustics**.**

Main stage lights are mounted on trolley systems tucked behind angled ceiling panels moving the width of the hall. The stage floor is divided into a series of sections powered by hydraulic pumps which move certain parts up and down according to needs. The orchestra pit utilizes adjustable lifts in create suitable heights. When not in use, it is filled with additional seating to increase the auditorium capacity. Both the main hall and the multimedia hall are surrounded by double encasing structures to isolate noise vibrations from the surrounding building. The main hall ceiling panels are designed to maximize sound reflection efficiency onto audience by controlling the angle of each panel. Seating in the main hall is covered with fabric to mimic the reflection values of human, thus enabling accurate calculations of space acoustics for small and large audience populations.

Environmental Sustainability

Adjustable glass louvers cover the building skin allows maximum heat control, where heat will be trapped in winter and ventilation during summer. In addition, they control the light and the permeability of the skin, offering shade during the day and illumination at night time. Control systems monitor outside temperature and when it is low it enough at night, windows are opened to allow night purge to cool the internal spaces.

Multiwater treatment plant in the building basement collects rainwater and filters for usage, as well as harvesting sewerage and treating it for grey water applications. Collection of rainwater along with treatment plant can supply all of the building's non-drinking water needs for plant watering.

Structural system

The span of the main hall is supported by steel trusses running the full width, leaving the interior space column free. The perimeter façade louvers extends from floor slab to ceiling, and enclosing a central axel which also acts as columns, supporting the building vertically. The surrounding walls of the hall act as shear walls which give the building its stability. They also play a major role in achieving some of the cantilevering floors. Concrete box beams will extend out from shear walls and connect to the steel trusses to form supports at the corners of cantilevered floors. The concrete boxes are prestressed to overcome large torsional forces and a light weight concrete floor rests on top of the steel trusses. A 1m deep prestressed concrete transfer slab at level 0 will transfer loads from upper levels down into the basement to ensure maximum efficiency in the layout of car park spaces without compromising the quality of spaces above and achieving all the acoustics requirements of insulation.