DESIGNED ENVIRONMENTS
A HUMAN-CENTRED APPROACH TO DESIGNING HUMAN HABITATS

Paul-Jervis Heath Founding Principal and Chief Designer
UX Cambridge on Wednesday 14 September 2016
Imagine what’s next.

Modern Human is a design practice and innovation consultancy that specialises in imagining disruptive new products, services and experiences and then making them a reality.
“A house is a machine for living in.”

— Vers Une Architecture (Towards an Architecture), Le Corbusier.
Maslow’s Hierarchy of Needs
http://dx.doi.org/doi:10.1037/h0054346
Maslow’s Hierarchy of Needs
ERG Theory
K2 Telephone Kiosk
Designed by
Giles Gilbert Scott

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Reimagine library environments for the 21st Century

PROTOLIB - Physical environment design for Cambridge University Library

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THE STUDENT TRIANGLE
THE WEST CAMBRIDGE HUB AND HALO

THE SIDGWICK HUB AND HALO

THE CITY CENTRE HUB AND HALO

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Thinking by making: Synthesis as a problem solving strategy
<table>
<thead>
<tr>
<th>Category</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteers</td>
<td>50</td>
</tr>
<tr>
<td>Exit Interviews</td>
<td>127</td>
</tr>
<tr>
<td>Questionnaires</td>
<td>46</td>
</tr>
<tr>
<td>Feedback Stickies</td>
<td>377</td>
</tr>
<tr>
<td>Total Hours of Observations</td>
<td>317 hrs</td>
</tr>
</tbody>
</table>
People choose their working environment based on 3 factors:
People have an individual hierarchy of working activities
Intensity is a defining factor of every environment

- **Low Intensity Environment**
  - Typical Length of Stay: 30-mins to 2-hours

- **Medium Intensity Environment**
  - Typical Length of Stay: 4-hours to 9-hours
South Reading room (Prototype 1.2)

Heatmap showing the occupation of seats within the low intensity prototype environment. Those sofas near the windows and plug are distinctly more popular than those away from these facilities.

Observation showed that these seats were in constant use and the first to be occupied in the prototype.

North Reading Room (Prototype 2.0)

Heatmap showing the occupation of seats within the medium intensity prototype environment. Those chairs nearest the windows and plug points were the most popular.

It is important to note that the presence of plants blocking sightlines reduced the feeling of being overlooked which would normally prevent people from choosing to sit in the middle of a room.
### North Reading room (original layout)
Original layout featuring a mixture of café-style circular tables and rectangular tables.

<table>
<thead>
<tr>
<th>CHAIRS</th>
<th>HIGHEST</th>
<th>MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>11</td>
<td>7</td>
</tr>
</tbody>
</table>

### North Reading Room (Prototype 1.0)
A more regular layout of large rectangular tables. 4 chairs to a table.

<table>
<thead>
<tr>
<th>CHAIRS</th>
<th>HIGHEST</th>
<th>MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>15</td>
<td>11</td>
</tr>
</tbody>
</table>

### North Reading Room (Prototype 1.1)
Same as prototype 1.0 but with the addition of lamps and plug points.

<table>
<thead>
<tr>
<th>CHAIRS</th>
<th>HIGHEST</th>
<th>MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>13</td>
<td>12</td>
</tr>
</tbody>
</table>
North Reading room (Prototype 1.2)
Same as prototype 1.1 but with the addition of plants blocking sightlines.

<table>
<thead>
<tr>
<th>CHAIRS</th>
<th>HIGHEST</th>
<th>MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>18</td>
<td>14</td>
</tr>
</tbody>
</table>

North Reading Room (Prototype 2.0)
Similar to prototype 1.0 to 1.2 but with the tables reorientated and placed next to windows.

<table>
<thead>
<tr>
<th>CHAIRS</th>
<th>HIGHEST</th>
<th>MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>20</td>
<td>15</td>
</tr>
</tbody>
</table>
South Reading room (original layout)
The original layout featured a mixture of comfortable chairs and large shared tables.

<table>
<thead>
<tr>
<th>CHAIRS</th>
<th>HIGHEST</th>
<th>MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>10</td>
<td>8</td>
</tr>
</tbody>
</table>

South Reading room (Prototype 1.2)
Same as prototype 1.1 but with the addition of floor standing lamps giving each seat a personal light source.

<table>
<thead>
<tr>
<th>CHAIRS</th>
<th>HIGHEST</th>
<th>MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>12</td>
<td>11</td>
</tr>
</tbody>
</table>

South Reading Room (Prototype 2.0)
Sofas reoriented so that none of them face each other.

<table>
<thead>
<tr>
<th>CHAIRS</th>
<th>HIGHEST</th>
<th>MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>15</td>
<td>9</td>
</tr>
</tbody>
</table>
The power of prototyping: Testing out a new reality
Involving all stakeholders:
The client, the staff and the users
Testing assumptions

OR
Medium intensity environments

Configuration:

Maximum 20 ENHEN LAVNCE

Each environment designed to cater to the needs of the individuals living within it. The design aims to provide a comfortable and supportive living space for each person.

Diagram:

- Architectural plans for medium intensity environments
- Illustrations of interior design

Additional information:

- Project 01
- Configuration: MEDIUM INTENSITY ENVIRONMENT
- Date: 01/01/2016

References:

- Modern Human
- Modernhuman.co

Contact:

@modhuman
This is not typically how we design large scale, civic projects like schools, hospitals or airports but it should be.
Design for dementia: a visual snapshot

- Connection with community
- Intergenerational exchange
- Provide privacy and retreat space
- Visual connections
- Light and views in corridors
- Dining: low ceilings, lighting, acoustics
- Strong connection between inside & out
- Shadings devices or structures
- Security
- Design for casual meeting
- Parking for visitors
- Family privacy
- Encourage visitors
- Large private unit windows (≥2sqm)
- Raised planting beds

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Human-centred design can be used to reinvent retail environments
...and to make working habitats more conducive to 21st Century work.
FIND OUT MORE

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