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Synteegrity for designing designing



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"Designing designing: second-order instruments and interfaces"

A course for collaborative conversation with the Theatre Group at São Gonçalo do Bação (a small village in the state of Minas Gerais, Brazil).

São Gonçalo do Bação

(a small village in the state of Minas Gerais, Brazil)

The village has its origins dating back to the XVIII century and presents many similarities with other mining villages in Brazil economically, socially and environmentally threatened by predatory activities ranging from neoextractivism to exclusionary and gentrifying tourism.



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São Gonçalo do Bação

The retaining wall



São Gonçalo do Bação

The overwhelming presence of mining activities



Theatre Group at São Gonçalo do Bação



Theatre Group at São Gonçalo do Bação



Theatre Group at São Gonçalo do Bação



Cedric Price's provocation: “no one should be interested in the design of bridges— they should concern with how to get to the other side”.

A design course intended to lead students not to reproduce a conventional practice (the one based on problem solving), but to create interfaces (physical, digital or hybrid) with which the members of the Theatre Group, and eventually other residents, would be able to broaden their imagination, raise more informed design demands, make decisions and, even, create their own spaces.

Two shifts in architectural education

First is the shift from teaching to learning following Seymour Papert proposal of constructionist learning: which in architectural education means shifting from teaching design by framing and solving problems, to what John Chris Jones names designing designing.

This leads to a peer-to-peer (P2P) learning focused on the students' responsibility.

Two shifts in architectural education

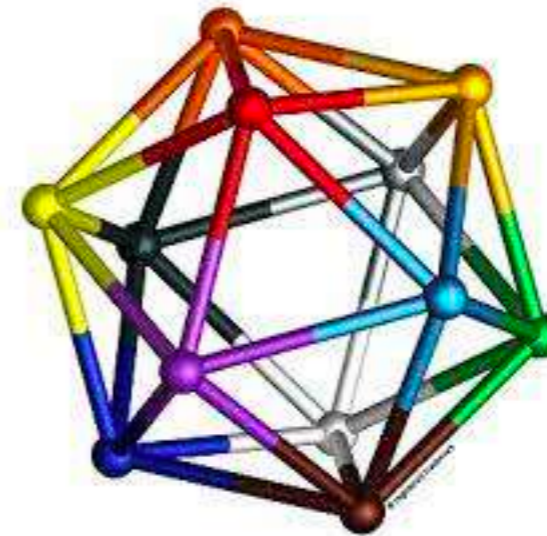
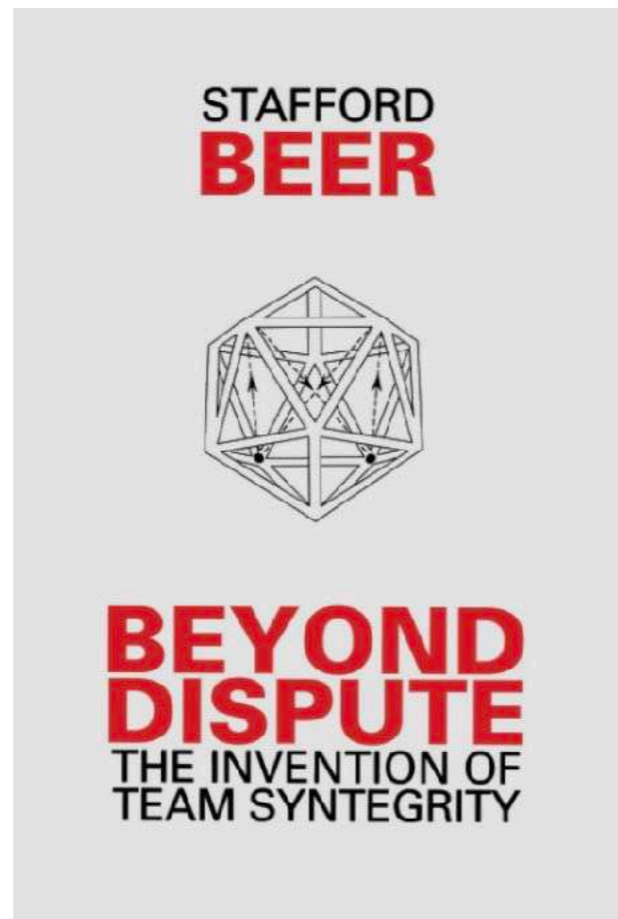
The second shift regards the overcoming of usual participatory processes that by over-relying on the professional's culture end up patronising socio-spatial groups, and points towards building a conversational design approach.

For this second shift we draw from Vilém Flusser's concepts of design and responsibility. Flusser understands design as an obstacle to remove previous obstacles that originated the demand for the design.

Responsibility in design is the “openness to other people” emphasising the intersubjective (dialogic) and not the objective, in order to obstruct the least possible those coming afterwards.

Synteegrity articulating theory and practice

Team Synteegrity was a methodology proposed by Stafford Beer as a way to go beyond dispute while maintaining the variety of viewpoints (perspectives), without impoverishing or flattening a complex and nuanced discussion.



After choosing Syntegrity as the main tool for the course we carried out several adaptations to respond to the specificities of the pandemic scenario.

We were teaching remotely (because of the lockdown and the necessity of social distance); we had to be restricted to the school schedule and daily timetable; and we could not be certain of the number of people that would be present at each class.

Systemic thinking by means of a cybernetic structure turned out to be helpful to establish a course in a pandemic environment engaging students and the community in a collective work.

Adapting Syntegrity protocols to work remotely over the internet was not difficult since we were using Zoom and its break out rooms.

According to Flusser, "contemporary dispersal cannot be reversed, on the contrary, it requires a new form of assembly".

We envisaged this new form of assembly as Syntegrity.

The possibility of having a structure for self-organization was precisely that which we needed to engage both students in the course (and within the shifts proposed by the course) and the residents with the students during the course, moving beyond a conventional participatory process.

Designing designing in practice: 4 Syntegrations

In practice, the different rooms in the first Syntegration with the Theatre Group have articulated 12 topics, discussed in two different rooms in six rounds.

The first Syntegration led to an agreement of a possible joint working process, in which the members of the Theatre Group were responsible to gather information from the community at São Gonçalo do Bação. They were asked to bear in mind a procedure more attuned to the idea of harvesting (what already exists and is cherished by the locals) than that of mapping (systematising data in an authoritative way).

From that first stage of independent work, the members of the Theatre Group contributed with themes they harvest in the community, such as infrastructure, tourism, environment, heritage and history, the impact of mining activities, the existing heteronomous projects for the region, the theatre headquarters and the possibility to assimilate demands from the community, such as a library, communal kitchen, etc.

Designing designing in practice: 4 Syntegrations

A third Syntegration was proposed to attune the interests of the students with that of the socio-spatial group. It was crucial to not let the students jump in solutions (reproducing the conventional design process) and to keep the residents' minds open to proposals beyond the theatre's headquarters refurbishment.

This third Syntegration informed the work of the students formulating preliminary ideas for interfaces, to discuss with the residents in the fourth Syntegration, this time having questions raised from these ideas.

After the fourth Syntegration, the students assembled 5 groups (with different amounts of people) according to their interests and affinities and proposed a range of preliminary interfaces that were presented to the community.

Towards self-organization

The feedback from the Theatre Group was quite positive. They understood the contribution of the students' prototypes to inform possible demands for the mining company. However, as the course was very short (two months), and the shifts proposed in the learning process were new for the students, the time was not enough to develop deliverable interfaces. At the end of the course, twelve students asked if they could continue the process with the Theatre Group.

As the Syntegration process led the students and the Theatre group to share purposes and responsibilities creating a sense of community, we agreed to create a new course module. This time with a radical structure based on self-organization. The students became responsible to design the Syntegrations with the Theatre Group.

In this new strategy, the students had weekly meetings with the teachers to provide critical feedback and adjustments for their independent meetings with the Theatre Group (without our guiding presence).

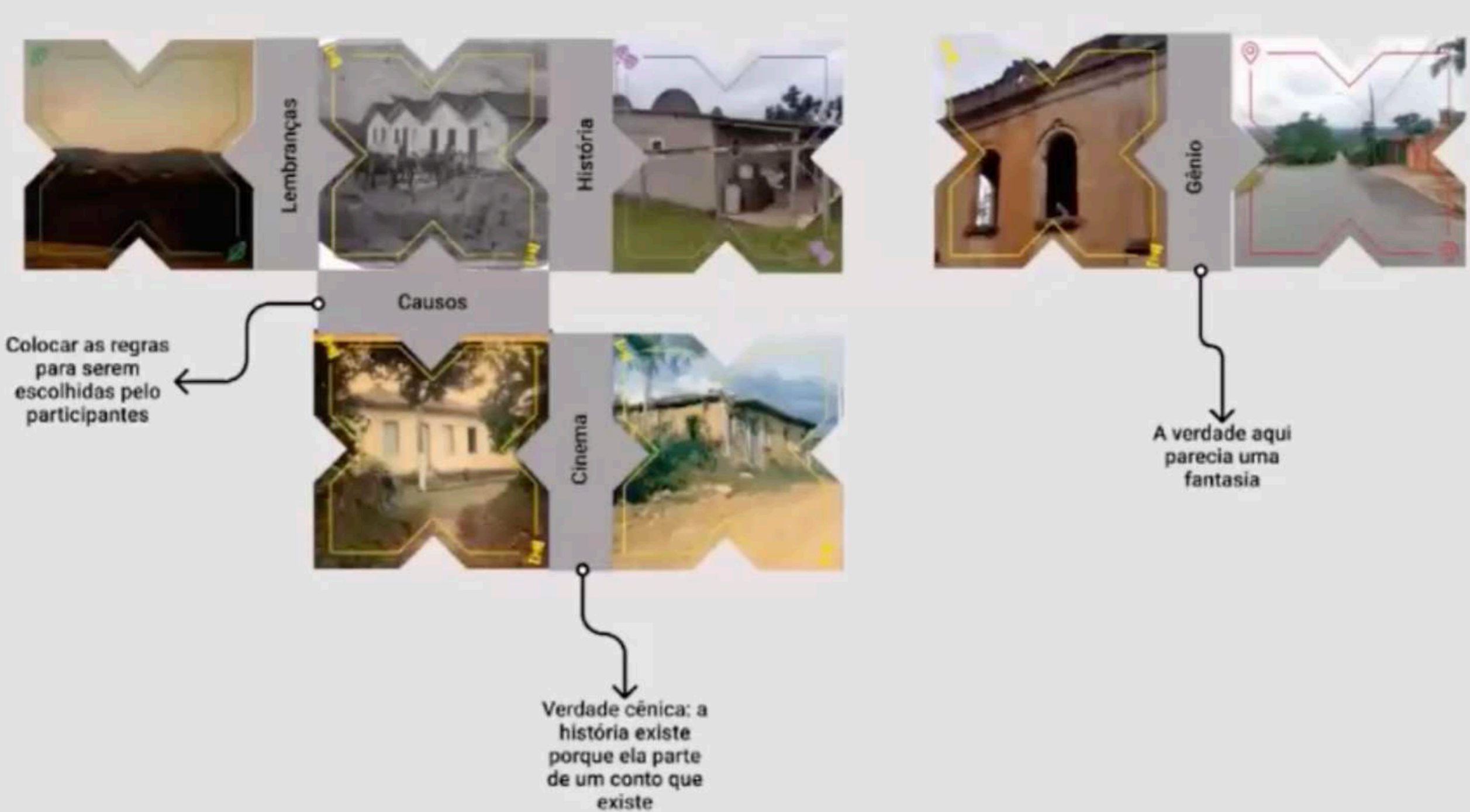
Interface 1: a jigsaw-board-game for raising socio-spatial memories

Working collectively in this second module, students and the Theatre Group developed a series of interfaces (digital and physical) that improved the prototypes produced in the first module.



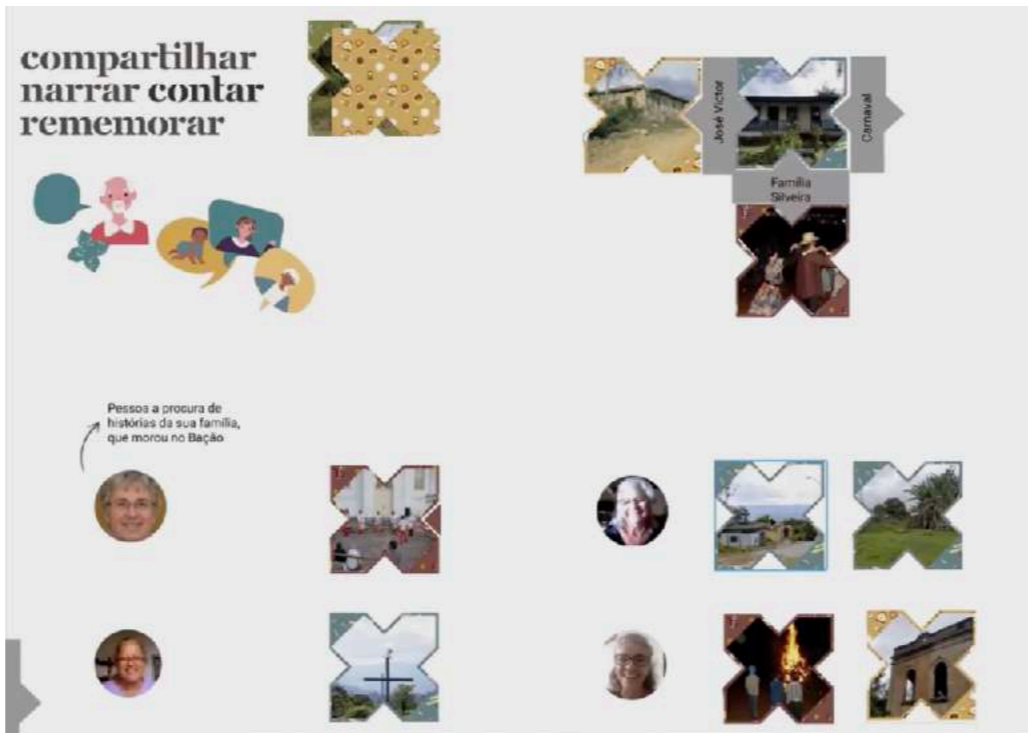
Interface 1:

a jigsaw-board-game for raising socio-spatial memories



Interface 1:

a jigsaw-board-game for raising socio-spatial memories



Interface 2:

a set of pieces for problematising and informing spatial demands



Interface 2:

a set of pieces for problematising and informing spatial demands

Módulos e espacialidades

O exercício consiste em experimentar diferentes configurações espaciais ao articular os módulos entre si. Os módulos são figuras geométricas que combinadas podem criar tipos de delimitações, aberturas, dimensões e conexões. Com isso, pretende-se testar os espaços e suas qualidades em uma representação tridimensional.

Cada módulo possui as dimensões em escala de 1 centímetro para cada 1 metro do espaço.

5 cm no papel = 5 metros

Os módulos são pensados com a altura correspondente à altura de um pé direito de 3 metros


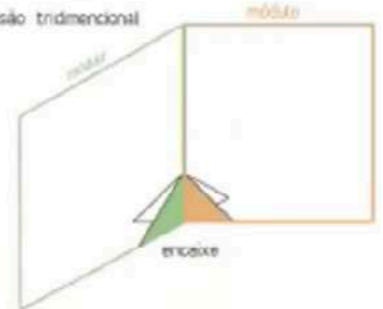
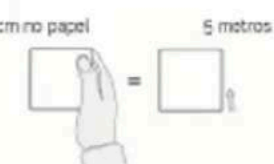
Para criar as espacialidades, cola-se a base dos módulos em uma das faces do encaixe.

Para conectar módulos usa-se um módulo de encaixe que é feito a partir de uma dobradura.

Dobrar ao mais três vezes.

Abra o papel. Posicione a ponta dos dedos no local indicado pelo círculo e puxe para cima procurando formar um sinal de mais (+) com o papel.

parte que desce e dobra para dentro
parte que sobe e dobra para fora



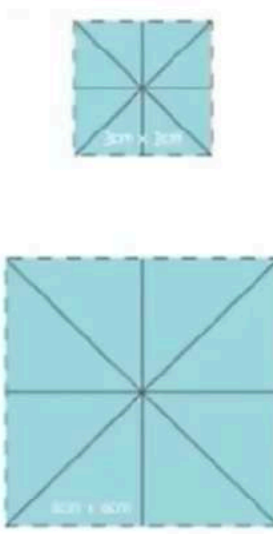
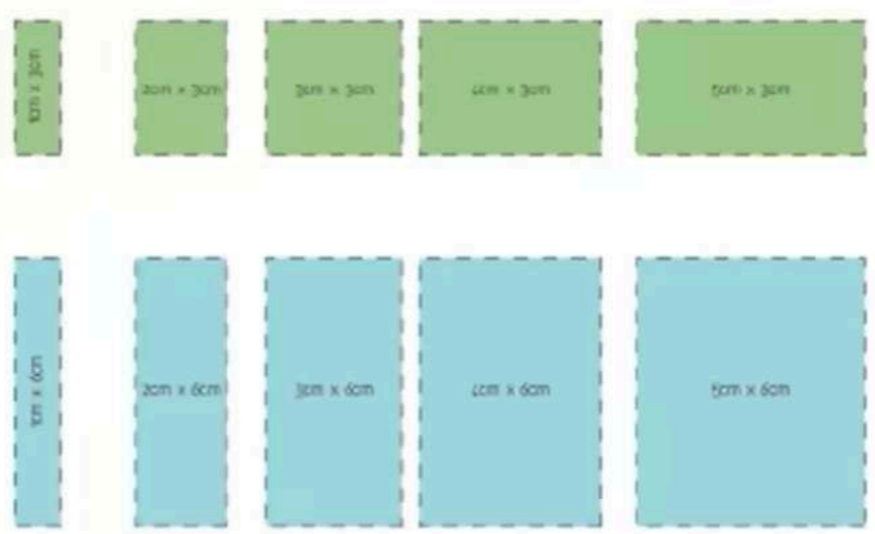
Módulos e espacialidades

Moldes para a dinâmica em escala 1:100 - 1 centímetro equivale a 1 metro

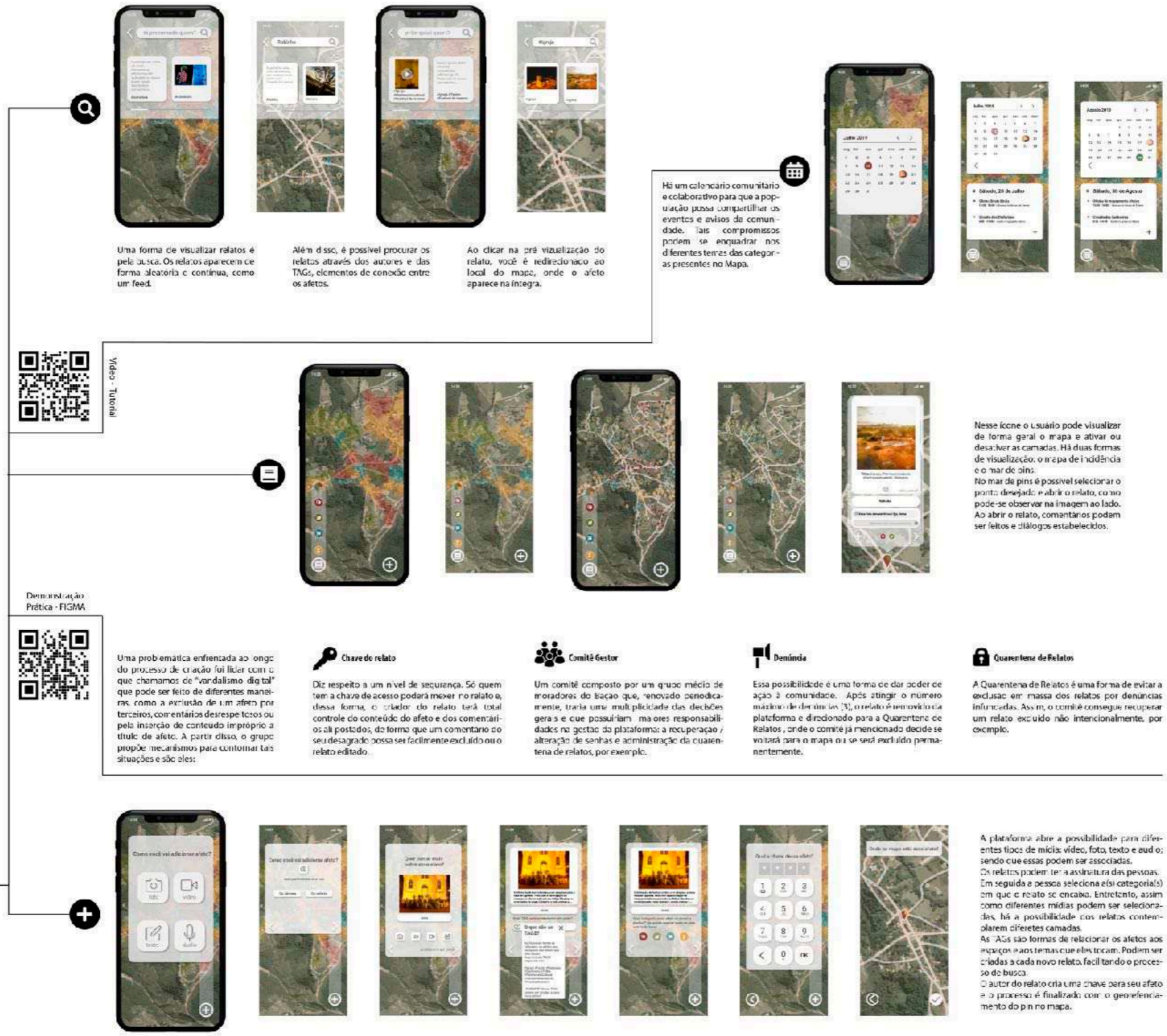
Recortar os moldes sobre as linhas pontilhadas Dobrar os moldes sobre as linhas contínuas

Moldes para os módulos

Moldes de encaixes



Interface 3: a collaborative digital platform to encourage a non-predatory tourism

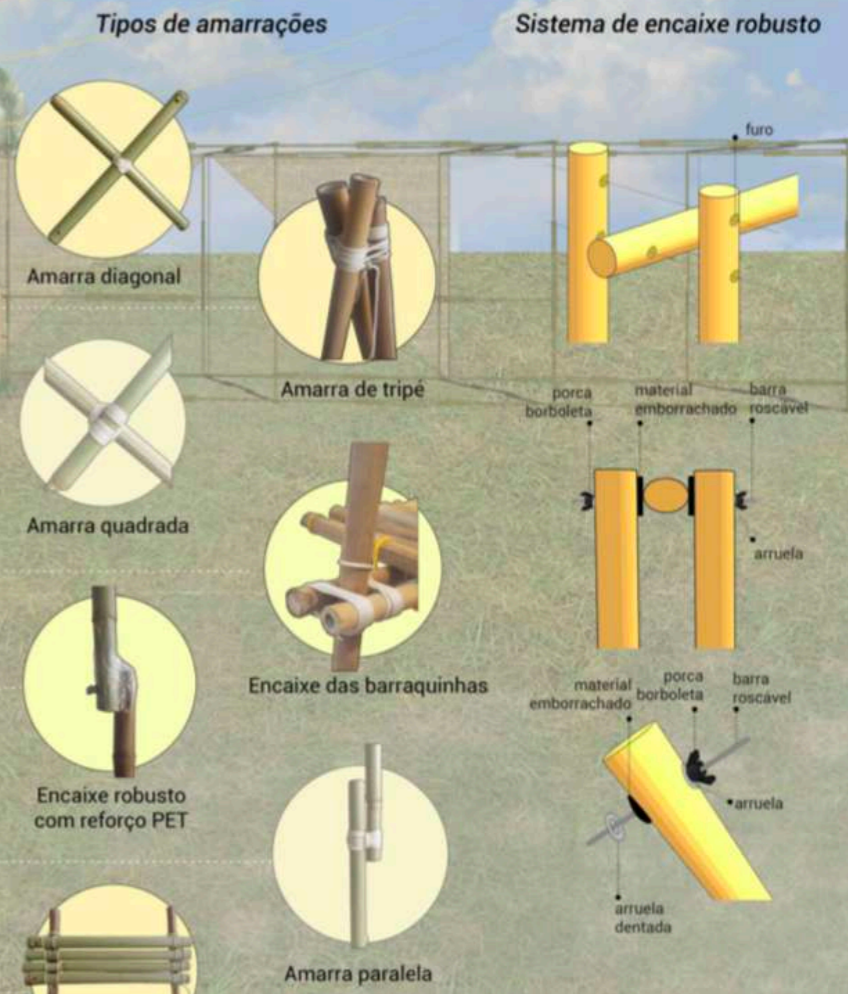


Interface 4: a set of mobile physical structures to be assembled by the population



A apropriação temporária do espaço realizada a partir de uma estrutura implica uma distância temporal curta entre os momentos de construção e desconstrução da matéria-suporte. Dessa forma, torna-se necessário que o processo de montagem e desmontagem seja rápido, compensando a impermanência da estrutura final. Junto da rapidez, a facilidade de compreensão do sistema construtivo demonstra-se uma virtude desejável. Com a pretensão de tornar as Estruturas Itinerantes um elemento que comunique as pessoas da cidade - possuidoras de diferentes conhecimentos e experiências diante do ato de construir - buscamos a criação de uma lógica didática de montagem e desmontagem. Tal lógica necessitou ser também flexível, visto que almejamos com as Estruturas criar um suporte para a espontaneidade da vida pública.

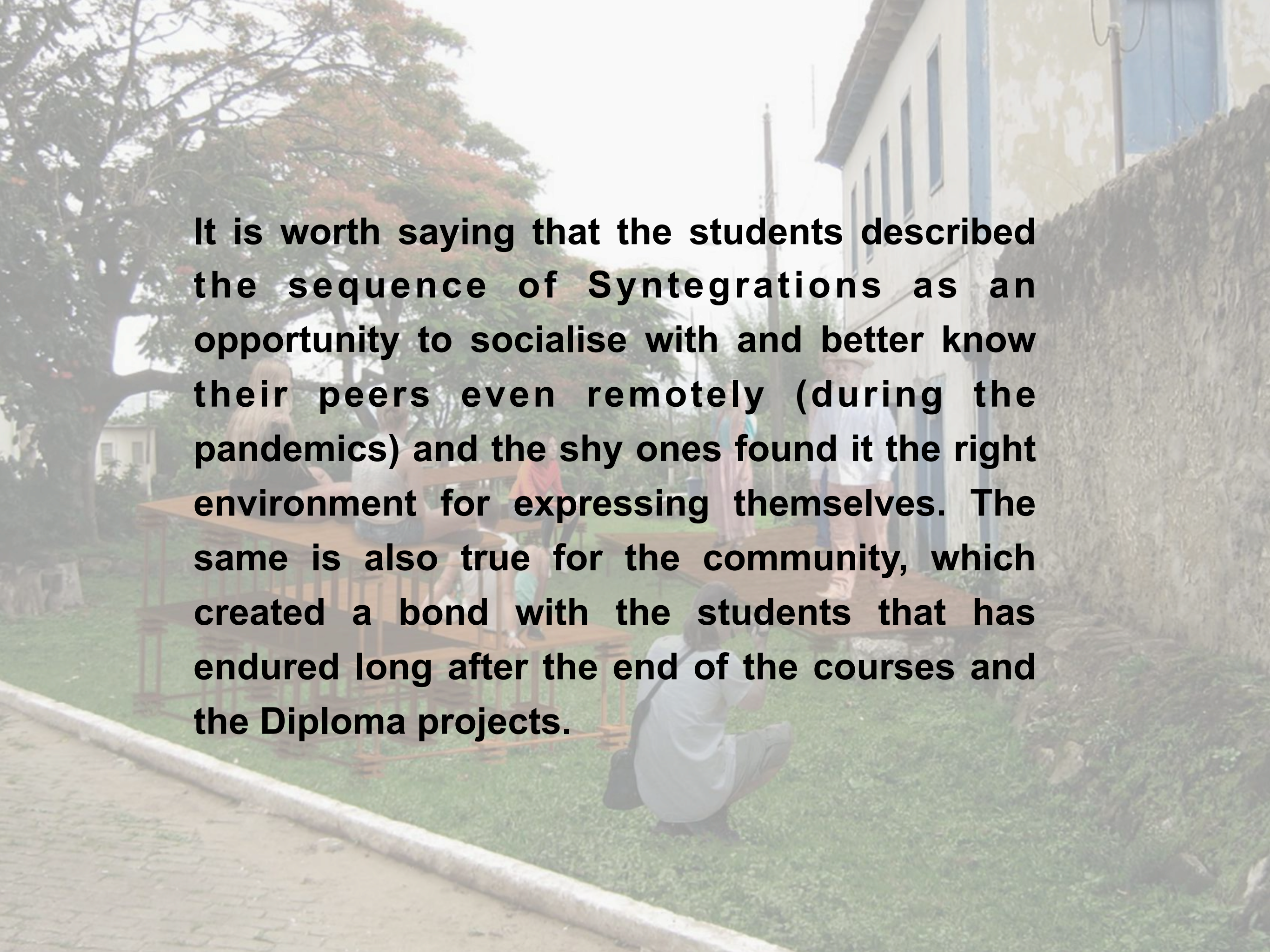
Tais anseios e compreensões convergiram para a adoção de um sistema de construção baseado em bambus e amarrações. Os bambus são matérias-primas acessíveis e sustentáveis que possuem propriedades mecânicas rígidas o suficiente para servirem de base para a criação das Estruturas. As amarrações surgem enquanto elemento aglutinador que permite conectar bambus de diferentes tamanhos e bitolas em diferentes direções e sentidos. Por serem leves, os bambus garantem uma facilidade de transporte e manejo. Já as amarrações, por não possuírem rigidez formal, garantem uma flexibilidade para as conexões e, com isso, permitem diversidade para as possibilidades construtivas. Em casos nos quais um reforço estrutural se demonstrasse necessário, foi pensado um encaixe entre os bambus a partir de parafusos, porcas, peças emborrachadas, arruelas dentadas e invólucros de garrafa pet derretida que garantem, junto do sistema de amarração, uma maior estabilidade e, conseqüentemente, uma maior rigidez à estrutura final.



Interface 4:

a set of mobile physical structures to be assembled by the population





It is worth saying that the students described the sequence of Syntegrations as an opportunity to socialise with and better know their peers even remotely (during the pandemics) and the shy ones found it the right environment for expressing themselves. The same is also true for the community, which created a bond with the students that has endured long after the end of the courses and the Diploma projects.