
The Spatial Constructs of Creative Situations

Meredith Bostwick-Lorenzo Eiroa

An engaging space that encourages creative behavior is multi-faceted, differentiated, and accommodates a diversity of creative possibilities. Creative space supports a creative footprint that is unique to an individual, their creative process and the differentiated stages of their creativity. Yet there is no one-size-fits-all “design” or “space” for creativity. In fact, certain physical aspects or characteristics of space help to define, encourage or limit creative behaviors at different stages of the creative process. As Alison Williams notes, creative spaces should be “full of affordances which people can adapt to whatever they wish/need at any given time.”

There is no precise or prescriptive “recipe” for the design of generic creative space. To maximize its potential for creating creative situations, each institution can evaluate its own “DNA”—the inherent qualities and genetic characteristics—that have the potential to frame a unique and performative creative campus.

Creative activities require diverse and differentiated spaces, “content-rich environments” full of affordances that offer links to “contextually available” resources that enhance trans-disciplinary learning and divergent thinking.

Creative spaces foster questioning, curiosity, and diversion; they are not controlled nor manipulated, but rather wild and spontaneous. Creative spaces are deconstructed, clear of cliché and route, devoid of conforming ideas (or ideals)—they are spaces that embrace uniqueness and individual perspective. Because active participation is requisite for a creative learning space, creative spaces are by nature transformative and performative. Like a city, they are stages for divergent activity.

As performative models, cities offer their own sets of characteristics and sequences of spatial situations that inform and shape unique experiences. We can learn much from the way we experience cities, through a unique framework of givens that alter and inform the playful, diverse and creative situations that manifest within them.

The space of creativity lies between the fixed givens of an institution and what has the potential to be defined or re-defined. In the same way that creativity challenges traditional models of learning and education, it must also unhook, deconstruct and challenge traditional models of planning and programming. New creative spatial constructs can challenge conventional models through critiques that actively displace those conventions. Creative constructs should allow programs or activities to emerge outside of conventions, free of clichéd predetermination, resisting utilitarian models of traditional space.

A proper spatial construct of creative situations is both non-linear and undetermined, and allows for an active, dynamic iteration between the individual, the group, and the institution. to freely relate, re-inform, and redefine their own individual spaces and networks of creativity. Or defining a spatial framework for a “city” of spaces and situations which overlap, collide, criss-cross, cluster, and punctuate a landscape of learning by surprise.

How do we then propose a new creative framework that can freely articulate events and relationships? New strategies are needed to characterize a collection of spaces full of affordances for multi-faceted learning and creativity. This essay provides a framework of spatial constructs that afford conscious experience of situations of experiment and play—a “city” of enriched spaces full of creative problem-solving and problem-finding situations.



THE MARKETPLACE / IDEAGORA

A term first coined by Don Tapscott and Anthony D. Williams in "Wikinomics: How Mass Collaboration Changes Everything" – the Ideagora has become a new model of mass collaboration, where the principles of openness, peering, sharing, and acting globally (or ignoring physical and geographical boundaries) work together to inform unsolved problems. Spatially, an Ideagora could be described as its Greek ancestor, an "agora" or a gathering place of diverse assembly that is infused with an information-rich environment full of commerce, exchange, and visually stimulating activity. An Ideagora, is what Kevin Lynch would describe as a landmark in the city – or a readily identifiable object or place which serves as an external reference point. An Ideagora has the qualities of a vibrant junction or intersection defining a busy public space. It is an active place that functions as a major "center" and attraction for tourists, visitors – where 'outsiders' are invited to participate in active exchange of information and problem solving. It is allowed to be an illuminated "hub" of activity with projecting billboards, displays, full of rapid-fire information. Taking cues from a Wiki, it is a physical space where large numbers of individuals and groups may gather to both input and search for ideas and solutions.



University of Pennsylvania
Weigle Informal Promotions
Architect: Wolf Saunders



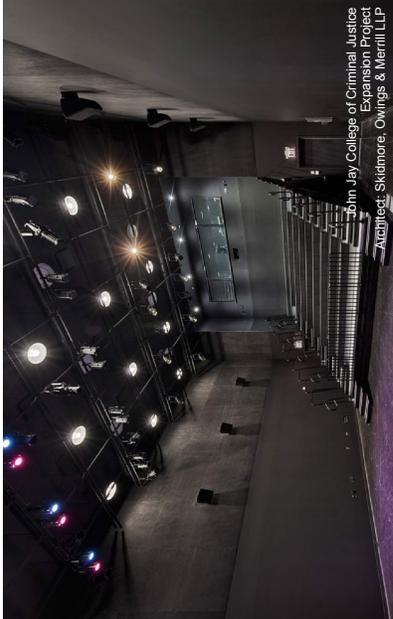
Atlanta University Center
Robert W. Woodruff Library
Architect: Stephen Quilley



Richard College
Sabine Hall Science Center
Architect: Perkins+Will



University of New Mexico
ARTS Lab



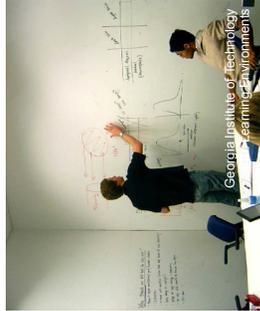
John Jay College of Criminal Justice
Expansion Project
Architect: Skidmore, Owings & Merrill LLP

WHITE SPACE

Director of the MIT Media Lab, Joiichi Ito describes the Media Lab as, "as a place where we use undirected research to discover answers to questions that we haven't asked yet because you don't know to look there yet." Ito notes that "novel, disruptive discoveries are often found by searching in spaces where you don't know the answer, or even what you're looking for." What he terms, "white spaces" are the spaces where "we learn along the way" – those spaces which are adjacent to "the areas which contain our core skills and knowledge." In science, these are the places where discoveries and the "aha moments" occur – where one least expects to find an answer. As a space, it is disorienting, outside of the everyday, utilitarian, and productive path. It is a space that is a-contextual – where one is forced to comprehend or understand things differently. White space serves as a space for the unguided, playful derive where curiosity, questioning, and searching can occur. It is one is given the permission to exercise free-association. By nature of it being on the edge - the physical border of the wall comes into play. It is a space that is clear of clichés, mess and confusion. White space provides a blank canvas that awaits feedback – and that is elicited through its white walls for "pin-ups" and contiguous writeable surfaces inviting divergent thinking and spontaneous discussion.



Georgia Institute of Technology
Learning Environments



Georgia Institute of Technology
Learning Environments



Facebook Headquarters
Architect: Studio O+A



THE BLACK BOX

As its name suggests, a black box is designed as a void space – abstract and uniformed by its surroundings – allowing any abstracted event or performance to take place absent of place, character, rules or givens. While other formal theater spaces can only accommodate change, the formal character of the space remains fixed. A black box theater allows endless configurations of space and infrastructure (rigging apparatuses, lighting, and seating configurations) - allowing students to exercise unlimited creativity, expression, and the ability to unleash experimentation by performance. The informal space of the black box lends it to production, testing, rehearsal, while catering to installations, spontaneous performance and events. In addition, the acoustics of the black box are designed or engineered to allow the "stage" to occur anywhere within the space – overcoming the limits of a formal theater. Black boxes are increasingly utilized as versatile performative spaces for workshops, think-tanks and skunkworks sessions – allowing for mock-up installations and testing of engineered prototypes and designs through affordances of flexible armature, acoustics, and readied infrastructure.



THE LAWN

The Lawn serves as an open space which physically connects the individual and the group to the larger community or institution as a whole. The lawn is democratic space for everyone – exercising its strength for creativity - it is a place for public speech, demonstration, and revolution. It is a "both/and space" for collective participation and individual reflection. The lawn is an iterative space for intramural and extramural play, learning, and collaboration. It is a mediating open space between the natural environment and constructed space as a campus.



Harvard University
Northwest Science Building
Architect: Skidmore, Owings & Merrill LLP



Duke University
LINK
Architect: Shepley Bulfinch



Duke University
LINK
Architect: Shepley Bulfinch



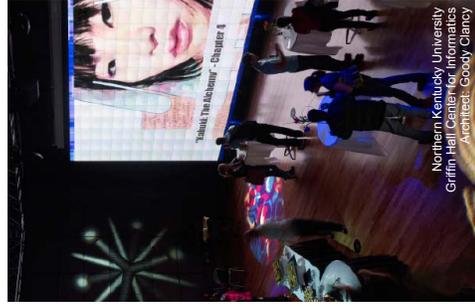
ZIP SPACE

As 21st Century learners are increasingly nomadic by nature, Zip-Space encourages nomadic populations to utilize a shared-system of spaces by leveraging on-demand, anytime, anywhere accessibility. An institution can thus provide a "fleet" of unassigned spaces that offers a variety of spatial choices for an individual's or groups' creative need. In addition, a mobile app or web-based application can provide bookable capability for a variety of space-needs varying in scale and duration for: conferences, meetings, teaming, group or individual study. Zip-Space is unassigned space, which attracts on-demand accessibility while encouraging an increasingly nomadic population to utilize (and share) under-utilized institutional space. Institutions may also utilize visible branding to encourage spontaneous use and awareness of available space resources. On a departmental level, Zip-Space encourages a sustainable use of existing "loose" spaces in a building which are not currently utilized to their full potential. Zip-Space is equipped with smart technology (projectors, smart boards, writable walls, WiFi, power) and agile furnishings (mobile, foldable tables and chairs) to adapt to and facilitate a variety of needs and quick reconfigurations.



CONNECTED SPACE

Connected Space bridges the virtually creative through technologically enhanced physical facilities. Connected Space offers facilities that are specially equipped for digitally immersive environments which include: 360 degree screens, virtual reality, and clustered computational spaces. It maximizes the creative potential of "swarm intelligence" – or the collective behavior of decentralized, natural and artificial systems. It utilizes crowd sourcing across a distributed group of people - forecasting problems, utilizing algorithms, and collecting input through online programming and gaming communities - exploring new paradigms, optimizing new models, and encouraging mass participation in both problem finding and problem solving. Connected Space facilitates access to clusters of telepresence rooms can facilitate small group virtual meetings such as go-to meetings & Skype. Connected Space may also provide unassigned computer clusters and virtual office stations which are available on-demand. Connected Space empowers individuals through Wi-Fi enabled spaces with access to convenient plug in charging stations for laptops, phones, tablets and other mobile devices. These types of Connected Spaces may occur along a detached path for creative convenience – or as a connection between a destination point A and B. On a larger scale, Connected Space bridges intra-departmental, institutional and global virtual connectivity through larger simulation laboratories or classrooms with high-technology needs



Northern Kentucky University
Griffin Hall
Architect: Goady Clancy



Teesside University
VR CAVE - High Quality Immersive Gaming



University of Missouri
Virtual Reality Platforms



THE NUCLEUS

The Nucleus is a node of activity – referring to a term in science to describe a critical point. Along a path, a node is a space of localized swelling, or a “knot” – and a nucleus is the spatial node which pulls multiple paths together around its central core. The Nucleus is a dynamic inviting space where gatherings can occur and others are invited to participate on alternating floors or levels of a building through an activated void (or an atrium space). It is a space which is connected by centripetal paths of travel and bridging networks including open stairs, ramps and bridges. It is a space that is energized by collections of meeting rooms, seminar rooms, conference spaces, break rooms, lounges and circulation space that often open or spill into the core. Each of these spaces is then made aware of the other in reference to each other as a whole – both physically and visually connecting a department, a research unit, or larger collection of departments or units.



Cooper Union
41 Cooper Square
Architect: Morphosis



University of California, San Diego
10750 University Blvd
Architect: Skidmore, Owings & Merrill



John Jay College of Criminal Justice
Expansion Project
Architect: Skidmore, Owings & Merrill



Google Headquarters
Architect: Camp Dresser & McKee



EXPRESS SPACE

Express Space is a “quick” non-committal space. It is a place that is strategically located along a path to facilitate spontaneous networking, interactions and transmissions of information and ideas between people. It is a place of quick resource – for coffee, conversations, gaming, vending, printing, recycling, fitness and cooking. It is a pass-thru space at an intersection or a bridge – a place that is not meant to be occupied for extended intervals of time. Express Space is equipped with Wi-Fi for quick Google or Wiki-searches for rapid resourcing and fact finding. Express Space is fitted with bulletins, notifications, advertisements and posters to provoke interest and pause. And most importantly, Express Space is furnished with high stools and high tables to encourage short conversations and information sharing, rather than lengthy meetings and discussions.



“HOW MIGHT WE?” SPACE

The “How Might We...?” approach has been used by creative companies for decades, but the origins can be traced back to Min Basadur and his early days as creative manager at Procter & Gamble. His premise? Language can inhibit creativity instead of encouraging it: instead of asking “How can we?” or “How should we?” Basadur argues that companies who ask “How might we?” provide creative confidence. “Might” acknowledges that some ideas may fail, while “We” implies collaboration. Edwin Land, the visionary co-founder of Polaroid and holder of more than 500+ patents acknowledges that an essential aspect of creativity is not being afraid to fail. “Scientists made a great invention by calling their activities hypotheses and experiments. They made it permissible to fail repeatedly until in the end they got the results they wanted.” Creative activity is implicit in tinkering, trusting intuition, illustrating or sketching thought, making errors and mistakes, exploring the full realm of possibilities, and entertaining curiosity through experimentation. “How Might We” Space provides the affordances for problem-based learning and active learning. It provides a place to ask a question and encourages a constructive response, and a place to propose new, alternative means to achieve results. It is a place for collaborative learning and creativity – with an emphasis on “we” – where the group “might” find solutions to problems together. The environmental factors for externalizing creativity in How Might We Space are key. How Might We Space “may” create a room within a room for private and semi-private conversations, for example. According to Laurie Malinin, people externalize ideas in different ways to help them uncover hidden or potential affordances in a creative situation. Long, Mackh, Malinin and Williams note that “a space which aims to develop or externalize creativity should provide an array of both tangible (physical resources) and virtual resources to scaffold social creativity and the development of co-created ideas.” Thus How Might We Spaces are furnished with an array of both physical resources and virtual resources to strengthen collaborative hypothesizing and encourage collective creativity.



Richard College
Sabine Hall Science Center
Architect: Perkins+Will



SHOP SPACE

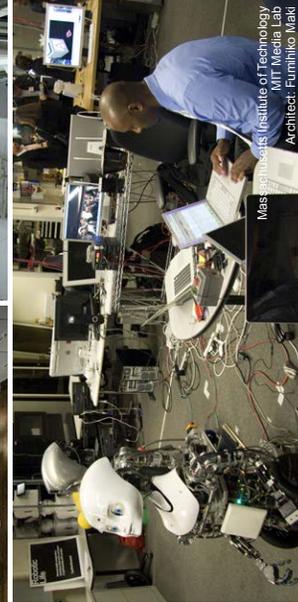
Not all creative space is "finished" - in fact one could argue that the space which has the potential to be the most creative is that which remains to be defined. Shop Space is an unfinished space - a hanger, machine shop, or warehouse quality space. It is a bare-boned space, rough around the edges to ignore perfection, in favor of exploring multiple study models, rough drafts, prototypes and hypotheses. To encourage "big thinking" and offer the space needed to work around larger prototypes and projects, shop space is often double-height, lofted space. It is a space to breakdown, disassemble, and reassemble devices through experimentation. Its "unfinished" quality encourages a dynamic fun space to tinker, fail, and "figure things out." It is a garage space where tinkering is allowed (and expected). Shop space can be utilized as collective workshops for semi-organized free-form experimentation - showcasing makers and inventors, inviting local industry partners to participate with the opportunities exhibit student projects and actively collaborate, interact and inform yet to be realized student projects and inventions.



Facebook's Headquarters
Architect: Studio OVA



Georgia Institute of Technology
Fast Processing Technology Building
Architect: Lord, Alcock, Sargent, Pickens



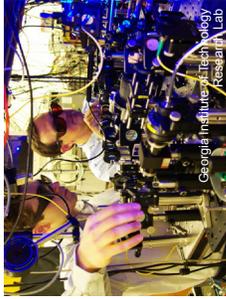
MIT Media Lab
Architect: Fumihiko Maki



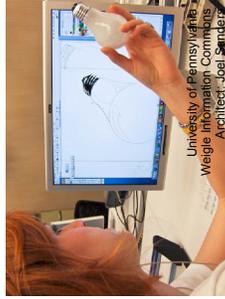
Dickinson College
Stuart Hall Commons
Architect: ZGF Architects LLP



University of Pennsylvania
Weigle Information Commons
Architect: Joel Sanders



Georgia Institute of Technology
Research Lab



University of Pennsylvania
Weigle Information Commons
Architect: Joel Sanders



THE "ER"

Like a formal "emergency room" or a laboratory for research and development, the "ER" is open 24 hours a day. Its on-demand, at any hour accessibility facilitates serendipitous creativity through the availability of space for the testing, on-going monitoring and speeding the development of ideas and ultimate solutions to problems. "The Emergency Room" is a space for analysis, testing and diagnostics - a place where rapid fire, impulsive solutions are encouraged. The "ER" is an experimental laboratory where phenomena are rendered visible. But the "ER" is different from the traditional laboratory - as Thomas F. Gieryn notes in his essay "What Buildings Do," traditional laboratories by nature are places of exclusion that are "designed to precisely control or discipline phenomena by protecting them from potentially destructive intrusions of natural pollutants or social threats." The "ER" moves away from a more formal traditional laboratory by encouraging more social place of experiment - one of "easy access" - which opens the threshold between disciplined, investigative work and what Gieryn describes as the "wild" and somewhat "promiscuous" nature that exists outside of the traditional laboratory. The "ER" is a central space shared by all disciplines, and by nature is centrally located to all. It is a space where assisting trans-disciplinary mentors or gurus are allowed to suggest (or discourage) a "textbook" diagnosis. A mentor or guru may offer possible clues to encourage fast problem finding - eliciting new questions from students and inserting conflicting alternative diagnoses.



LISTENING SPACE

The Listening Room is an acoustically controlled space - a conscious space where an individual is fully aware of their environment and thoughts. It is a meditative and tranquil space - a space for breathing in openness and free thinking, while releasing performative tension, anxiety, and everyday utility. It is a space for finding purpose and meaning through practice. The Listening Rooms is space for processing, rehearsing, and absorbing information. The Listening Room is located as an island or oasis, disconnected from the routine, and abstracted from everyday cliché - a clean space devoid of unnecessary clutter and baggage.



Google Headquarters
Architect: Camenzind Evolution



Google Headquarters
Architect: PENSON Group



WAR ROOM

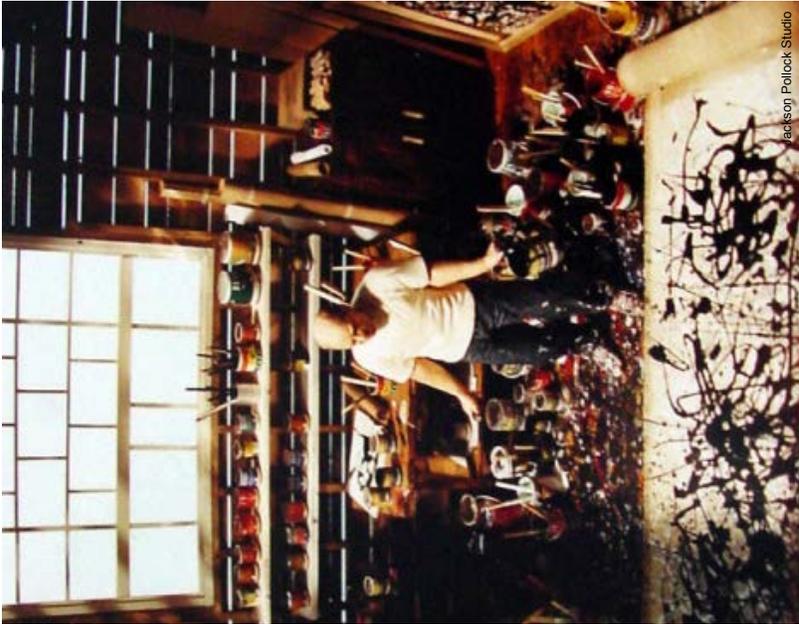
The War Room is a convergent place for think-tanks, SCALE-UP learning models, and active charrettes in groups. It is a space that warrants discussion and critiques, while inviting propositions, strategies, planning, and alternative approaches. It is a place for facilitated active planning and learning. It is a place to work in teams on "tangibles" (hands-on measurements or observations) and "ponderables" (interesting, complex problems). There is no single lecturer (or dictator) - instead discussions are class-wide, eliciting opinions from all participants. Hence groups are structured to give students multiple opportunities and abundant affordances to interact. It is a space full of articulated thought and divergent (and sometimes oppositional) opinions. It is a space for debate and challenging concepts. The War Room is a space that can be utilized for long periods of occupation (and incubation).



SCALE-UP
Student-Centered Active Learning
LSC Example Environments



SCALE-UP
Student-Centered Active Learning
LSC Example Environments



Jackie Pollock Studio



NOOKS & CORNERS

Keith Sawyer notes that "groups are often more creative than solitary individuals, but not in all cases." Sawyer notes that, "Individuals are often better at "additive creativity"—if a task can be decomposed into subtasks, with the subtasks assigned to different individuals, then that task is probably better done by solitary individuals who later pool together their work." Spaces for individual creativity include quiet spaces for individual reflection, study and contemplation. Nooks and Corners also imply a diversified series of individually-oriented spaces which offer a variety of scaled environments. These scattered of pockets of space are equipped with a varied collection of comfortable ergonomic furniture while providing diversified customizable environments — complete with task lighting, daylight controls with access natural light, equipped with WiFi and appropriate power densities to encourage occupation. Nooks and Corners provide a space that is acoustically private, but not isolated from others.



Dickinson College
Stuart Hall & James Hall
Architect: ZGF Architects LLP

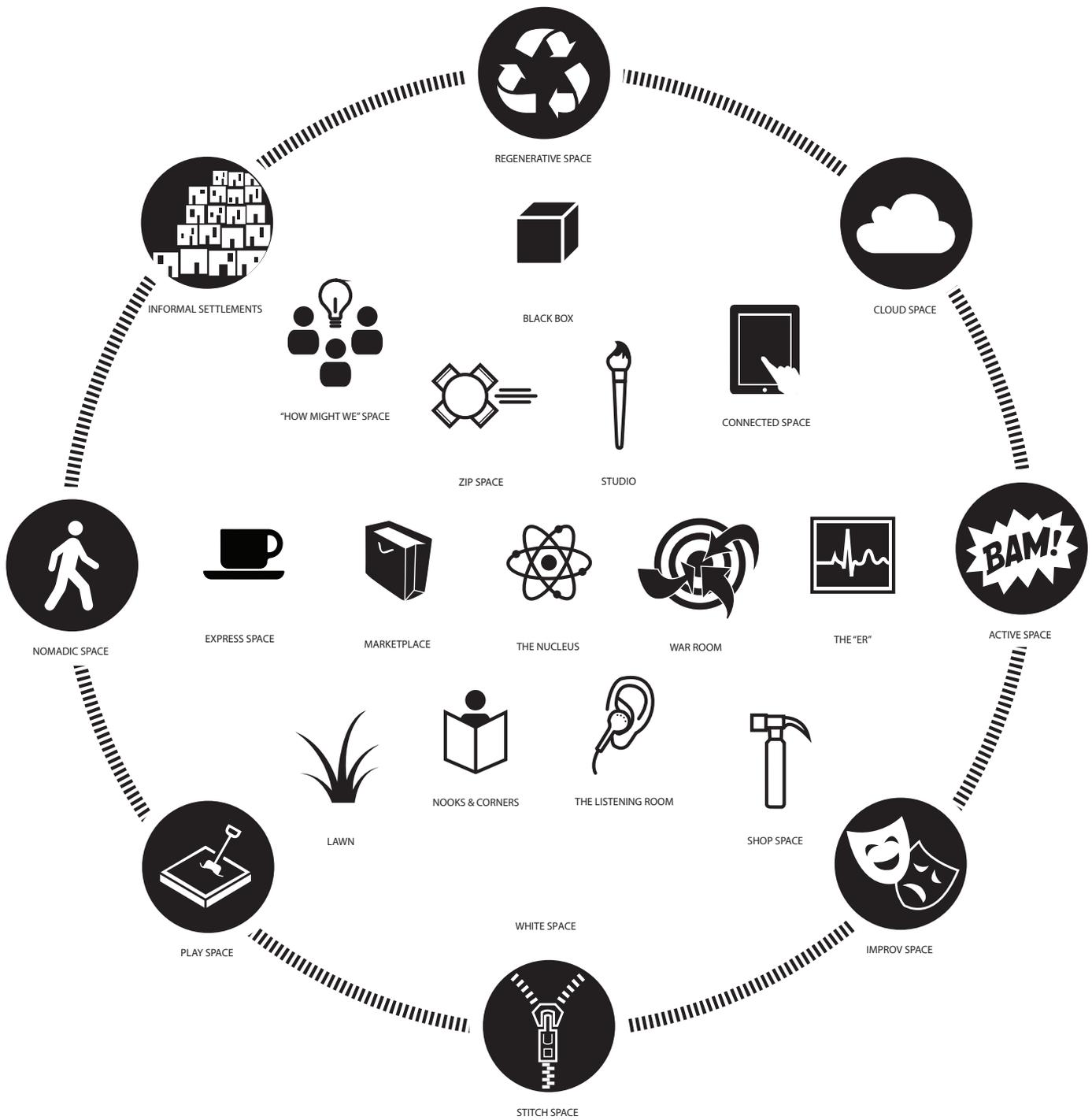


Duke University
LINK
Architect: Skidmore, Owings & Merrill

THE STUDIO



The Studio is the classic space of the artisan. The studio is a space which allows independent desk critiques — encouraging individual proposals, group discussions, and suggestions. The studio is a space which encourages individual creativity. It is a often a "messy" creative space that is individually controlled and assigned per person. It is a space of creative energy which propels others, and creates an affection of creative energy. The Studio is a messy space for exploring, creating, charring and proposing ideas.



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