

HGA



DESIGNING FOR EXTREMES:

USING TECHNO-ETHNOGRAPHY AND IMMERSIVE
EMPATHY TO SHAPE INCLUSIVE ARCHITECTURE



AUTHORS

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STUDY OVERVIEW

University of Virginia's Student Activities Building (SAB), mainly serving as a performance and rehearsal space for students, is a 35-year-old building located on the west side of the original Academical Village designed by Thomas Jefferson.

Due to SAB's inability to support student performers' needs, a team of designers, researchers, and student body representatives was formed in the spring of 2018 to study, rethink, and redesign SAB on the UVa campus -- referred to as Grounds.

The study engaged over 200 students from its initiation in January until its conclusion in April.

The research and design team used Design Thinking methodology, as a form of Participatory Action Research that integrates the element of design into the process, to:

1. develop insights about students' relationship to SAB in the larger context of Grounds; and
2. imagine ways of making SAB a successful place on UVa Grounds through the process of co-creating its architecture.

To address these goals, the team started by coupling principles of ethnography with digital mapping technology to understand participants' thoughts and emotions underlying their actions and behaviors. We combined the results from a digital, interactive, spatial mapping tool (thin description) with immersive empathy, observation, and focus groups (thick description).

Studying students' patterns of movement and distribution of various amenities on Grounds provided the team with insight into the network of paths and their relationships to their adjacent experiential, historic, or programmatic nodes and hubs on Grounds.

This study indicated that all successful places on Grounds provide an overlap of three types of amenities: social, intellectual, and cultural. We named this particular pattern the UVa Venn. SAB, in its current status, was not supportive of the UVa Venn; therefore, the building needed to be either relocated to where the other types of amenities already existed or programmatically complemented by the missing social and intellectual amenities.

To provide ethnographic thick description for the mapping study, the team also explored the needs of SAB's mainstream and extreme users through immersive empathy as a form of participant observation. The underlying idea for this study was that people or groups who exhibit extreme behaviors, amplify the needs and desires of the rest of the users. In a way, if we solve for extremes, we solve for everybody. The results from the immersive empathy challenged the team's original hypothesis:

a well-equipped and well-designed performance space supports the needs of SAB users.

During immersive empathy, the team discovered that novice performers' expectations from SAB are fundamentally different from professional performers which requires for the building to serve multiple roles.

The professional performers were those who organized large Salsa events, engaged in intense rehearsals, and played giant tuba and 6ft-tall upright bass for which they required advanced sound and lighting systems.

The novice performer, on the other hand, came to SAB to socialize, bond with members of her student organization, and peripherally participate in activities offered by other student organizations.

Programmatically, what this meant was the emphasis on having the right capacity of quality multi-purpose spaces in SAB accessible to a large group of student body who would use the building as a resource for socialization and hosting meetings and events. For the professional performer, however, this meant having the right capacity of quality specialized spaces accessible to host rehearsals and performances.

The research and design team used the analysis to co-create several design options in two participatory ideation workshops. The final design option expressed the coupling of social and intellectual amenities to boost SAB's social permeability to diverse student groups with an elevated cultural significance as a hub of arts and performance on Grounds.





RESEARCH OBJECTIVE

The research objective was twofold:

1. develop insights about students' relationship to SAB in the larger context of Grounds; and
2. imagine ways of making SAB a successful place on UVa Grounds through the process of co-creating its architecture.

The variables selected to be studied on the scale of the campus included students' patterns of movement and distribution of various amenities and programs on Grounds which provided the team with insight into the network of paths and their relationships to their adjacent experiential, historic, or programmatic nodes and hubs on Grounds.

In the scale of the building, the team explored the thoughts, emotions, and actions of SAB's mainstream and extreme users through immersive empathy as a form of participant observation. The results from studying the two scales of campus and building challenged the UVa leadership as well as team's original hypothesis: a well-equipped and well-designed performance space supports the needs of SAB users.



According to the new findings, the building needed to provide the right capacity of quality multi-purpose spaces accessible to a large group of student body who would use the building as a resource for socialization and hosting meetings and events.

This would be equally as important as providing the right capacity of quality specialized spaces accessible to host rehearsals and performances.

THEORY, METHODS, RESULTS

1. FRAMING DESIGN THINKING AS A FORM OF PARTICIPATION ACTION RESEARCH

Rooted in the participatory design tradition evolved since the early 1970s (Bjögvinsson et al., 2012; Gobble, 2014) and the ongoing design discourse about the nature of design since the 1960s (Rhinow & Meinel, 2014; Johansson-Sköldberg et al., 2013), design thinking has been largely framed and popularized by IDEO in partnership with several other progressive design companies in the 1990s and Stanford University school during the mid-2000s as a way of enabling innovation and dealing with complex problems by making designers' way of thinking accessible to non-designers (Camacho, 2016; Luchs, 2016; Katoppo & Sudradjat, 2015; Johansson-Sköldberg et al., 2013; Bjögvinsson et al., 2012; Melles et al., 2012).

Design Thinking is mainly characterized by the same attributes used to describe action research: it is concerned with developing practical knowing, uses participatory processes, is focused on real human and social problems, and employs various ways of knowing (Reason & Bradbury, 2001). However, it distinguishes itself from action research by the virtue of

A relying on iteration as a way of incorporating the element of design into the action research equation;

B emphasizing on empathy as a method of collecting ethnographic data; and

C using ideation as a way of creating opportunity areas through abductive reasoning as opposed to deductive hypothesis-testing.

2. TECHNO-ETHNOGRAPHY OR COUPLING ETHNOGRAPHIC RESEARCH WITH TECHNOLOGY

During recent years, there have been efforts to integrate big data and thick data to provide organizations with a more complete context of any given situation (Wang, 2013; Shang & Philips, 2012; Mojtahedi et al., 2017; Mojtahedi, 2018). This is important because while big data reveals insights with a particular range of quantified data points, thick data reveals the social context of connections between data points (Wang, 2013). We coupled the two types of data by overlaying the data from the interactive spatial mapping tool with immersive empathy, participant observation and interviews. We did so by overlaying the data from the interactive spatial mapping tool with immersive empathy, participant observation and interviews. The spatial mapping component of this study is in part based on the "campus capital mapping" approach developed by Dr. Brian Schermer and Workshop Architects for college campuses, including the "Campus Capital Framework: Mapping Meaning to Inform the Michigan Union Renovation," which received an EDRA CORE award in 2017.

3. UNIVERSITY OF VIRGINIA OFFICE OF THE ARCHITECT VARIOUS STUDIES AND REPORTS

Office of the Architect at UVa has conducted several studies including Landscape Master Plan (1998), Precinct Plans (2011), and Grounds plan (2008). As a complement to existing studies, we studied patterns of movement and distribution of amenities to improve connectivity, leveraging existing infrastructure resources, and strategizing for redevelopment.

4. TEAM MEMBERS

The research team was comprised of the following members:



A Design Researcher and User Experience Designer with a PhD in architecture and focus in using the architectural design process as a participatory innovation process of cultivating individual growth and organizational change in research, work, and higher education environments.



An architect with 17 years of experience in cultural, educational, and student life projects who is skilled in managing and facilitating public design charrettes for large scale planning projects.



An architect and frequent convener, presenter and workshop facilitator for the Society of College and University Planning (SCUP) and Learning Spaces Collaboratory with 25 years of experience in designing buildings and conducting studies for higher education campuses.



An architectural designer and architectural educator with extensive experience in programming and designing student life buildings as well as curating participatory design workshops.



A student body representative, student leader, and key member of a focus group who works alongside the Head of Facilities Planner and Associate Dean of Students. She has deep knowledge regarding the building, campus culture, and key user groups..

The team's formal interaction between its team members included weekly meetings for a duration of three months and ad hoc collaborations on a regular basis. Moreover, 188 students participated in the spatial mapping survey while over 50 students and staff were engaged in a town hall and two focus groups organized by the research and design team.

5. METHOD

The research and design team used Design Thinking methodology, as a form of Participatory Action Research that integrates the element of design into the process, to (1) develop insights about students' relationship to SAB in the larger context of Grounds; and (2) imagine ways of making SAB a successful place on UVa Grounds through the process of co-creating its architecture. To address these goals, the team started by coupling principles of ethnography with digital mapping technology to understand participants' thoughts and emotions underlying their actions and behaviors. We combined the results from a digital, interactive, spatial mapping tool (thin description) with immersive empathy, observation, and focus groups (thick description).

Studying students' patterns of movement and distribution of various amenities on Grounds, conducted during the months of January and February, provided the team with insight into the network of paths and their relationships to their adjacent experiential, historic, or programmatic nodes and hubs on Grounds. To provide ethnographic thick description for the mapping study, the team explored the needs of SAB's mainstream and extreme users through immersive empathy as a form of participant observation in the month of March. The results from the immersive empathy augmented the team's original hypothesis and expanded design opportunities during the ideation phase.

Additionally, and in the month of March, the research and design team used the analysis to co-create several design options in two participatory ideation workshops.

The rationale for choosing these methods was due to

- A the team's commitment to integrating the voice of the student body into the process;
- B UVa leadership's curiosity about ways of incorporating larger amounts of data into the process which led to the use of techno-ethnography; and
- C the research team and UVa leadership's willingness to use Grounded Theory as opposed to positivist hypothesis-testing which led to the implementation of Design Thinking as a methodology.

On the scale of the campus, patterns of movement and distribution of various amenities on Grounds were analyzed based on the traffic level. Correlations were studied to determine the type of amenities that would attract a more diverse student population. Additionally, open coding, axial coding, and selective coding were used to extract patterns of space use and needs pertaining to the building. Selective coding revealed the fundamental difference between the needs and expectations of the extreme users.

Participatory prototyping or model-building was used during the first ideation workshop. Models were later analyzed to extract spatial and experiential diagrams. Finally, five architectural models were developed and user feedback on each model was recorded to further iterate and create a hybrid option. The final design option expressed the coupling of social and intellectual amenities to boost SAB's social permeability to diverse student groups with an elevated cultural significance as a hub of arts and performance on Grounds. In sum, the results of the research study expanded the scope of the project.

6. RESULTS

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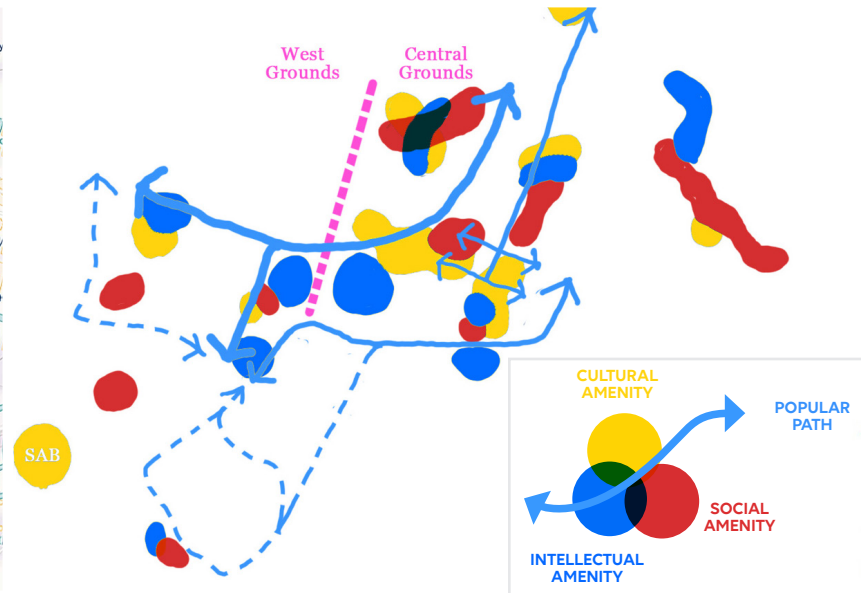
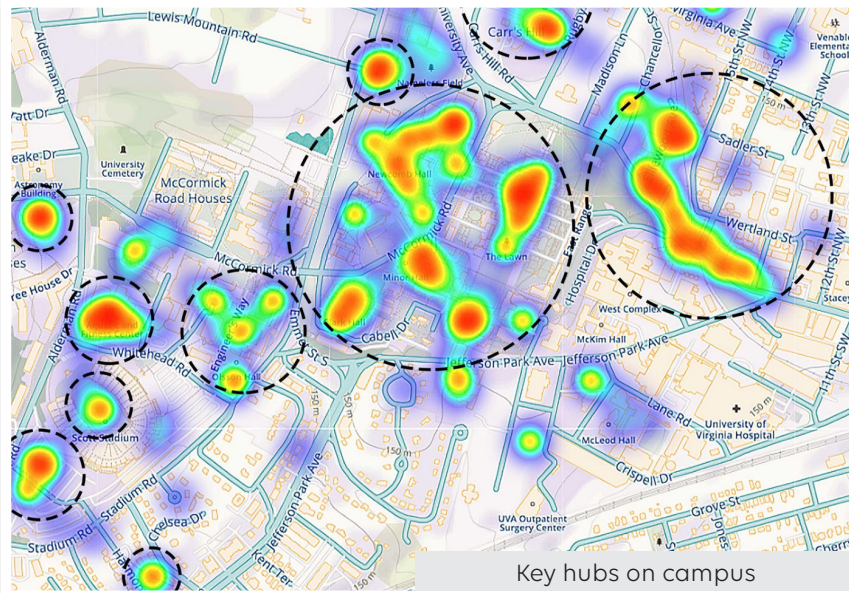
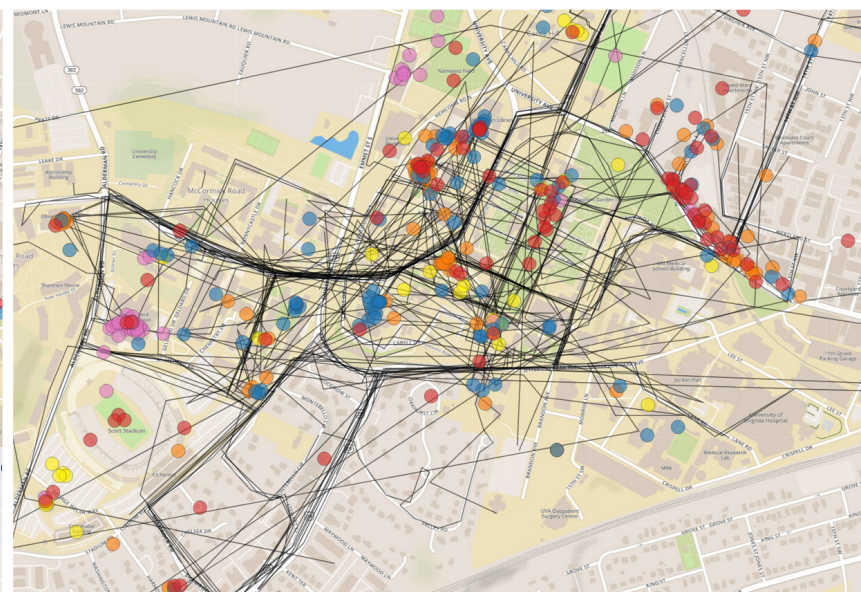
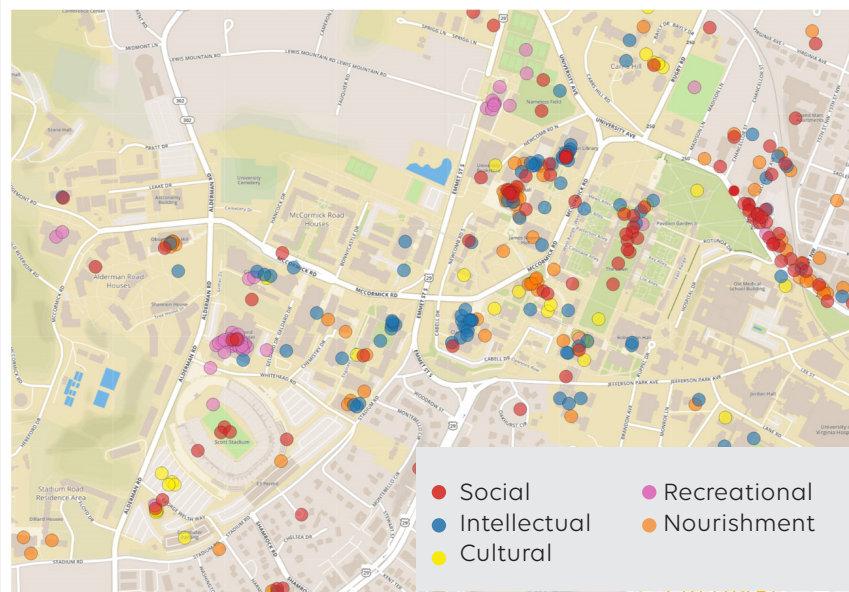
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THEORY, METHODS, RESULTS

STUDENTS' PATTERNS OF MOVEMENT AND DISTRIBUTION OF VARIOUS AMENITIES



The UVa Venn is the secret sauce behind successful places on Grounds

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The right capacity of quality **multi-purpose** spaces accessible to the student body to host meetings and events



SOCIAL HALL

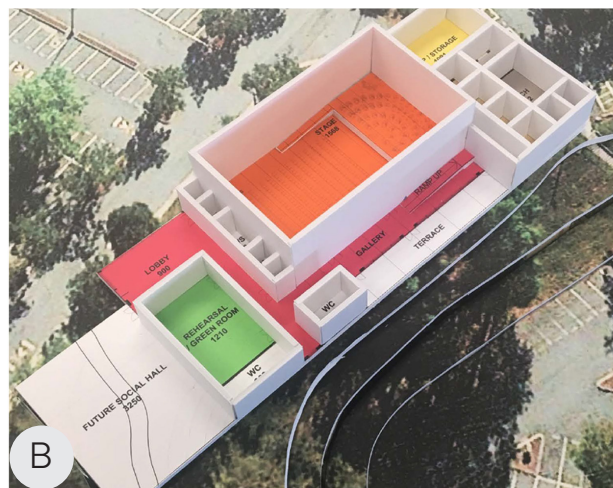
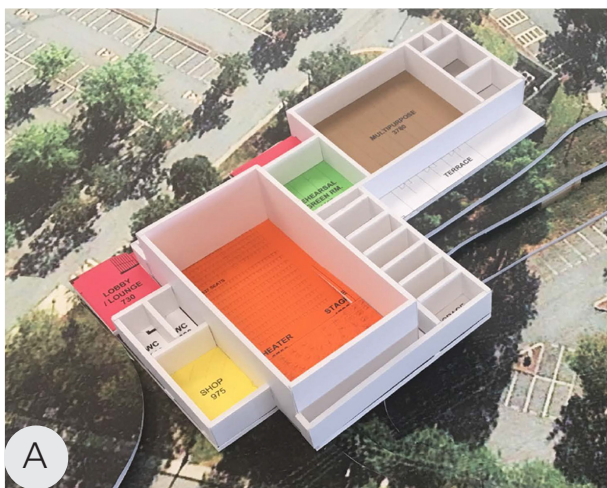
Dances, dinners, student organization events, multicultural gatherings




The right capacity of quality **specialized** spaces accessible to host rehearsals and performances

WHITE BOX SPACE

- Flexible, multi-use space
- Retractable raised seating
- Darkening windows



- A.** Designing to include the Extreme on the left (novice performer)
- B.** Designing only for Extreme on the right (professional performer)

7. THE AUDIENCE

The targeted audience for this research study are university officials, campus planners, higher ed designers, and student body. However, the communication of study's findings so far has been limited to the UVa community and the following four categories:



The team hosted a town hall during which students and staff participated, engaged with the interactive spatial mapping tool, received research summary presentations from the research team, asked questions, and provided feedback.



In collaboration with the student body representative engaged in the research study, an article about the town hall was published to the independent daily news organization at the University of Virginia.



In collaboration with the student body representative engaged in the research study, a monthly newsletter was sent to students to explain the project's progress.



During ideation sessions, a selected group of student body representatives as well as key members from the University's Office of the Architect and Student Affairs Office received presentations pertaining to the study's findings.

8. STUDY'S CONTRIBUTION TO THE FIELD

The study's contribution to the emerging field of techno-ethnography in architecture is amplified through the manifestation of its impact on this projects' direction and its underlying design decisions.

The research study's findings expanded the program and consequently the size of the building. Thus, the project increased in scope from minor interior renovation to major renovation, a new addition, and landscape design. The research and design team is committed to integrating big data and thick data to provide organizations with contextual information that can transform their processes and experiences.



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