

ensō

*a web-based app for screening
psychological distress at the GSD*



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Purpose

Despite novel techniques to foster resilience within educational environments, no formal assessment technologies have been routinely implemented for architecture and design schools to screen for distress. Students in design schools commonly express feelings of stress and anxiety throughout their educational experience. These feelings of anxiety, depression, and panic attacks are further exacerbated when students feel pressured to forego basic self-care activities, such as sleeping, eating, exercising, and socializing, in order to meet rigorous course demands, particularly before deadlines and finals. While we commonly hear this experience from individual peers, this systematic culture cannot currently be tracked to a program, studio, or setting, making it difficult for any solutions to be proposed or implemented on an institutional level.

Anosognosia, a state which results in a lack of insight into one's self, is prevalent among those who are affected by psychological distress. This lack of inward attention can manifest as internal stress, trauma, and disorder (Sin and Lyubomirsky 2009). Psychological distress is common among graduate students, and inadequate self-awareness and psychosocial support may increase the probability of burnout. We endeavor to work with graduate students at the GSD to test **Ensō**, a web-app which is designed to screen individuals for psychological distress and deliver tailored resources as needed.

Perspective / Background

Ensō is an integrated web-based self-assessment tool, created and designed in a collaborative effort between occupational health researchers at the University of Virginia and Massachusetts General Hospital. This application provides reflective data to end-users regarding their psychological profile in the domains of stress, anxiety, depression, and substance abuse. Based on the ancient Eastern recognition of wabi-sabi, the beauty of imperfection, Ensō acts as a tool to understand personal stress levels which may ameliorate anosognosia and catalyze personal growth. Functioning as a user-friendly interface, Ensō allows users to take short personal reflection surveys in order to check in on personal mental health in any given environment (Figure 1). This data accumulates to provide timely reports to users, which reflect both personal development and overall health of the given institution (Figure 2).

Section 1: Personal Reflection Survey

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1. How do you feel right now?



2. What are you doing right now?

Working

3. Are you thinking about something other than what you're currently doing?

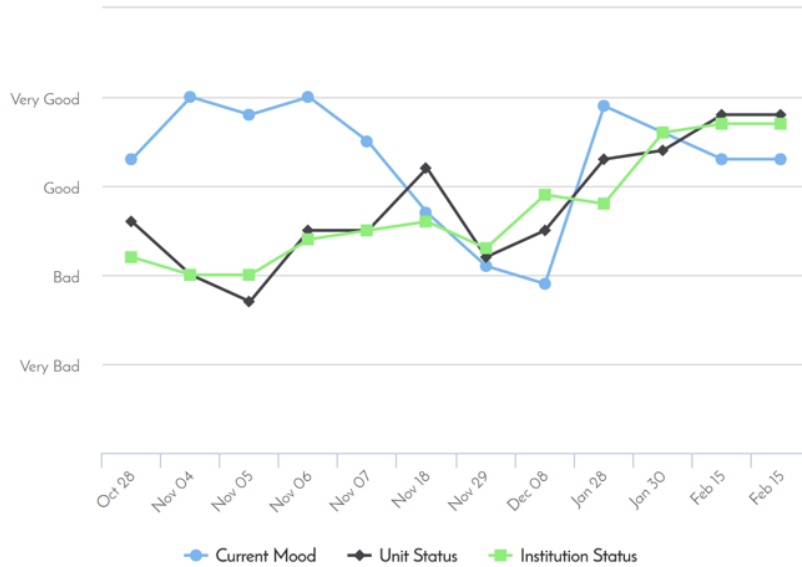
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4. What is the status of the unit where you are primarily located?



Figure 1. (Above) Sample questions of personal reflection survey, Figure 2. (Below) Monthly reports of user + institutional health

My History



Institutional support and peer support, when made visible to staff, have both been shown to mediate occupational stress. The literature has recommended stress first aid (SFA) as a method of fostering resilience (Everly, Barnett, and Sperry 2009). The primary mediating factor which has supported resilience has been shown to be via increased peer support (Purpora and Blegen 2015). This peer support has been shown to be a precise inverse predictor of decreased personal accomplishment, the main factor in burnout (Taormina and Law 2000). The literature has shown that peer support would be beneficial to prevent burnout and SFA is one method of promoting this.

Additionally, surveying students has been shown to be an effective and recommended method to detect the presence of mental illness (Wang et al., 2007). While peer support and screening have both been shown to be effective, comprehensive programs to promote either have not yet been initiated amongst graduate programs. This disconnect between the literature and the practice illuminates the need for improvement. Ensō provides a unique opportunity, a chance to integrate SFA and screening to foster peer support and better recognition of psychological distress.

In addition to providing support for users on a personal level, Ensō reveals the stress conditions of the entire workplace through anonymous data and has the potential to spatially represent the conditions of workplace environments. As seen in Figures 3 and 4, this anonymous data has the potential to reveal a "heat map" of specific zones of workplace environments which are experiencing stress daily. For example, if the fourth floor north tray of Gund experiences stress levels in the green level one week (light stress) while the second floor south tray experiences stress levels in the red level (high stress), that data would not only encourage students to foster conversation and support within the shared network, but could be translated into a weekly stress map which could serve as an alert and signal to administrators that certain areas of the building need more intervention than others.

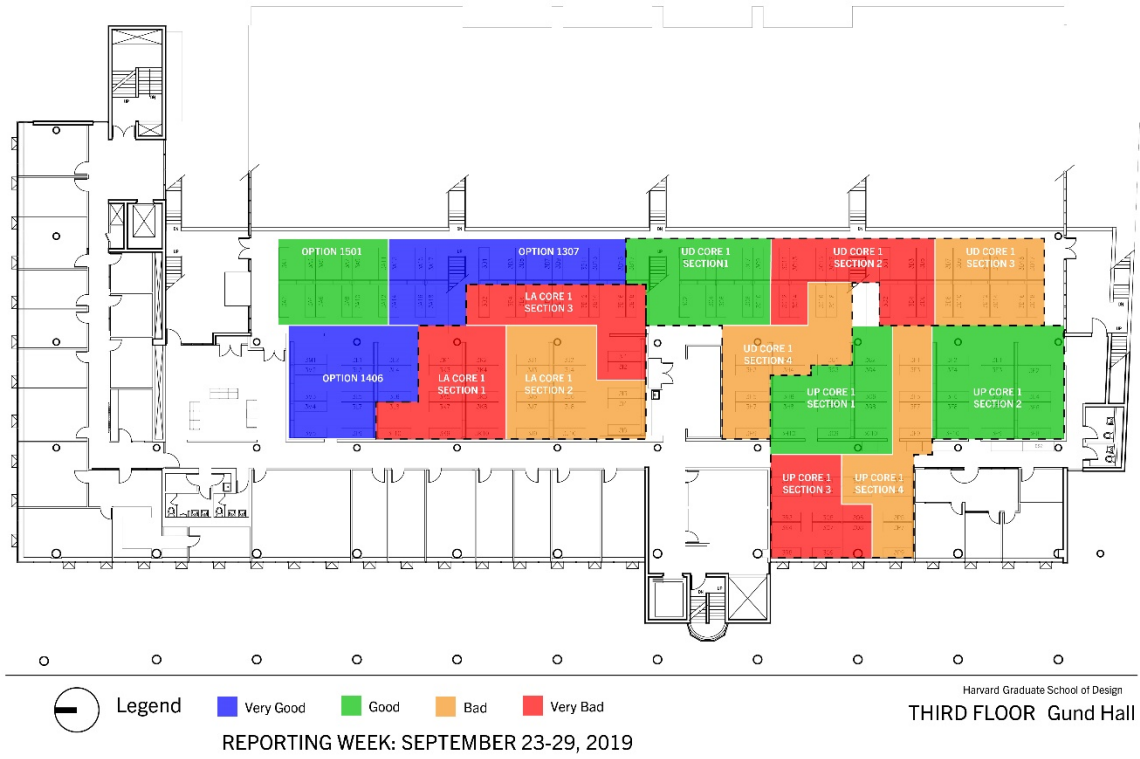


Figure 3. (Above) Example heat map of Gund stress levels at beginning of semester.

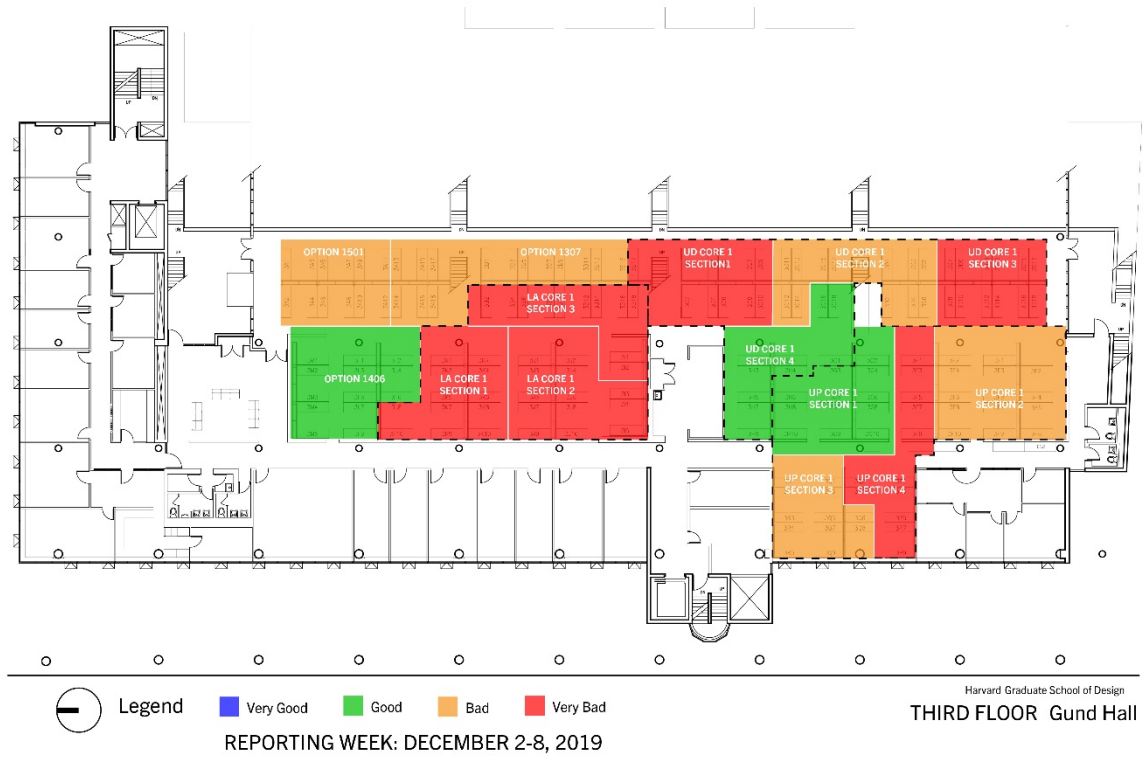


Figure 4. (Above) Example heat map of Gund stress levels near end of semester.

This data would be a particularly valuable basis of evaluation for core years, in which the course structure is more or less constant for all students. Given the ability to visualize stress in real time, administrators would have the potential to correlate this data to course load requirements and assess how to alleviate stress levels. Additionally, areas that exhibit chronic elevated stress might indicate a need for immediate administrator intervention.

We believe that this tool, as it has been shown to be useful in healthcare environments, would be extremely useful in architecture and design schools given the high intensity workload and probability of burnout. This visual representation of the floors of Gund could be extremely valuable to the GSD, and would allow department chairs, faculty, and student services to respond with specific interventions before conditions worsen. Based on the current spatial organization of Gund, this would be most reflective of stress exhibited within studio sections, which is suitable as studios are arguably the most demanding courses at the GSD. As such, the data collected would be most descriptive for Core Programs, where course structure is most constant among all students. However, stress indicators at the Option Studio level, where students often take different electives, might express less consistency. For GSD students who do not have a specific assigned studio section, we propose a 'virtual' section mapping, wherein that data can be aggregated and mapped to a hypothetical section or department location.

Project Plan

We propose introducing Ensō to the incoming 2020 class of students at the GSD, which will consist of access to embedded screening, testing, and psychoeducation resources that will allow for users to access insight on-demand, immediately, and to browse available resources at their fingertips through a self-paced screen-and-intervene structure. This study would take place one year after the rollout of the GSD Mental Health Survey, which is intended to collect data on how school environment impacts student mental health. This survey is the first to specifically target the mental health environment of the GSD as opposed to the larger setting of Harvard, and distribution of Ensō would appropriately follow these present measures.

The Department of Psychiatry at the University of Virginia has already implemented Ensō with wide-ranging success. We believe Ensō will serve to prevent the stresses of the GSD environment from building into more serious psychological harms, as well as provide resources for additional help on an institutional level.

Funding + Budget Table

Ensō currently has the capacity to: screen individuals for distress, encourage positive reinforcement to encourage recovery, provide personalized resources to access help on-demand, display user-facing statistics to encourage awareness, and the ability for administrators to visualize disaggregated data on all users anonymously. The current state of the app development can be adjusted to the GSD, where we could create groups based on specific studios or departments, and individuals would join that group for the semester. Thus, every semester, an RA would need to be hired to adjust these studio groups. Additionally, we foresee Ras being needed for other weekly tasks, such as translating graph data to a spatial “heat map” of Gund to report back to administrators and CAMHS. Additionally, we foresee needed outreach events, such as a kick-off events where students will download the app, create an account, and learn about how to use Ensō as a resource.

Preliminary Budget Table

RA Initial Recalibration of ENSO Platform	12 hours/semester	\$17/hr	\$ 204.00
RA Data Organization (heat map development)	4 hours/week	\$17/hr	\$ 952.00
RA Meeting with Faculty / Student Services	2 hours / month	\$17/hr	\$ 136.00
EVENTS			
RA Event Preparation for Kick-off Event	4 hours/semester	\$17/hr	\$ 68.00
Initial Kick-off event materials / food		\$700/event	\$ 700.00
Training Events / Workshops	4 hours/semester	\$17/hr	\$ 68.00
MARKETING			
Posters (36"x24")	6		\$ 200.00
Fliers (letter/11"x17")	30		\$ 20.00
BUDGET TOTAL/SEMESTER			\$ 2,348.00
ACADEMIC YEAR			\$ 4,288.00

Methods

To assess the impact of the intervention program, various psychometric scales will be analyzed through the app. All participants will be presented with two daily SFA operational questions and a generalized referral survey which will allow for in-depth psychometric analysis comprised of the Patient Health Questionnaire-2 (PHQ-2), Generalized Anxiety Disorder-2 (GAD-2), PTSD Short Form Checklist (PCL-2), Maslach Burnout Inventory-Short Form (MBI-Short), Alcohol Use Disorders Identification Test (AUDIT-C). Based on the results of these surveys, participants will be administered a longer-form, with greater specificity, or deemed not appropriate for screening. The more extended assessments included the Professional Cohen Perceived Stress Scale (PSS), Patient Health Questionnaire-9 (PHQ-9), Generalized Anxiety Disorder-7 (GAD-7), PTSD Checklist for DSM-5 (PCL-5), Maslach Burnout Inventory (MBI), and Alcohol Use Disorders Identification Test (AUDIT).

This method will allow visualization of which psychological traits predict burnout and resilience. We will also assess if the perception of academic work is a strong predictor of stress and burnout. We will also utilize this technology to predict which psychological areas are most essential to change when implementing stress-reduction and wellness programs. Finally, we intend to understand what changes may be implemented to foster meaningful results among the incoming 2020 class.

Impact + Longevity

It is hypothesized that the implementation of this three-staged program would be associated with a reduction in factors associated with burnout amongst students. Secondly, we foresee that a statistically significant difference in occupational, psychological wellbeing will correlate in a definite increase in student engagement and an increase in student satisfaction.

We believe that the culture of design and architectural education contributes to high levels of stress, anxiety, and depression that manifest on a personal and institutional level. While these cultural realities are often discussed, there is currently not adequate infrastructure to measure these feelings in a systematic way in order to effect positive change. Feelings of stress, anxiety and depression can often leave individuals feeling highly isolated, and this is arguably more true in competitive academic settings.

By formalizing the discussion around mental health and well-being, students will be given the opportunity to engage in a greater network of community and self-reflection with their peers. In looking forward to a future of well-being at the GSD, we believe that digital resources such as Ensō can provide opportunities for personal reflection, minimization of burnout, as well as targeted responses to individual psychological needs in and outside of Gund Hall.

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