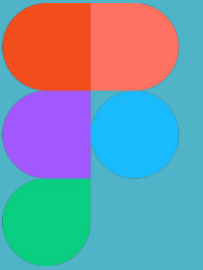


Designing an App to Identify and Reflect on Root Causes of Burnout



Wonho Lim, Wilson
Chen, Saideep Narendrula

Motivation

Definition of Burnout

“Burn-out is a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions: feelings of energy depletion or exhaustion; increased mental distance from one’s job, or feelings of negativism or cynicism related to one's job; and reduced professional efficacy.”



Most Employees Experience Burnout at Work

Please indicate how often the following is true for your job: You feel burned out at work.



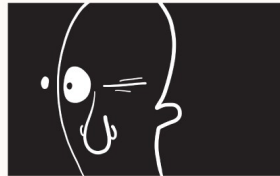
GALLUP

signs of
BURNOUT



exhaustion

isolation



escape fantasies



irritability



frequent illness



healthline

how to prevent
BURNOUT

exercise



eat a balanced diet



*practice good
sleep habits*



ask for help



healthline

Problem Statement

- Burn-out reduces one's productivity rapidly.
- Burn-out makes one hopeless and cynical about one's life.
- Burn-out may result in medical problems like depression and insomnia.
- Burn-out can negatively impact every aspects of one's life: work, social activity, and



of U.S. office workers say they are stressed at work on a day-to-day basis.



report that work-related pressure has increased in the past five years.



of HR leaders blame employee burnout for the inability to retain staff.



say employee burnout is responsible for up to half of workforce turnover.

Up to **\$190 billion**
in U.S. health care costs



and **120,000 deaths**
each year are attributed to workplace stress.



It is important to keep track and analyze one's daily productivity and mood to prevent burn-out

Existing Approaches

Maslach Burnout Inventory

- Requires licensing and confusing for users to interpret results

Single Item Surveys

- Results are comparable to full MBI surveys

- Do not cover the factors contributing to burn out

Oldenburg Burnout Inventory

- Address positive and negative attitudes towards work

Design Goals

1. Should minimize the friction the user experiences
Design should be intuitive to use
2. Should support reflection-in-action for user entries
3. Should support reflection-on-action for user entries
4. Should nudge users to healthy behaviors with possible solutions to their burnout

Strategies for Avoiding Burnout (Bruce, 2009)

Reduce stress

Build a strong social network

Improve time management

Self-reflect on unsustainable habits

Be aware of your personal health

"Eat right, exercise, and get enough sleep"

User Stories



As an overloaded college student,
I want to understand why I am overwhelmed
So that I can take better care of myself.



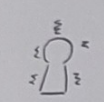
As a working professional,
I want to figure out why I'm always exhausted at work
So that I can take actions to improve my work/life balance.



As a member of a group project,
I want to learn why I keep slacking off even when I want to help
So that I can pull my weight and support my teammates.

We need to design to support self-improvement,
acknowledging contextual variables that contribute
to burnout/exhaustion in our multifaceted lives
and understanding ourselves more in the process.

Problem User Flow



1) User is stressed out by how much work they need to do.

How can we change this?

Equip users with the knowledge of how much work needs doing?

(Bruce, 2009)
Improve time management

Tracking considerations

- Time management / scheduling



The user is too exhausted to grind out the work.

How can we change this?

Proactively encourage reflection on personal health habits - are they eating, sleeping, exercising enough?

(Bruce, 2009)
Be aware of personal health

Tracking considerations

- Nutrition
- Sleep
- Exercise



The user starts browsing Twitter/Reddit/YouTube to distract themselves from the stress,

How can we change this?

Unsustainable/self-destructive habits need to be conveyed to the user as unsustainable.

(Bruce, 2009)
Self-reflect on unsustainable habits

Tracking considerations

- Context-dependent; Activity-tracking?



The user finishes their binge. It's midnight and they missed the deadline.

Can we prevent this?

Reporting multivariate data is complicated.

Time management/scheduling

Many data streams to potentially have to integrate.

Nutrition

Manual tracking the details (calories, fats, vitamins, ...) is tedious.

Sleep

Automatic tracking requires resources, manual tracking can be somewhat tedious.

Exercise

Manual tracking can be tedious.

App monitoring

Invasive; privacy concerns.

Supporting Reflection-in-action: Self-Report “Snapshots”

A hand-drawn self-report form on a light purple background. It contains five questions, each followed by seven circles for rating. A large right-facing curly bracket groups the five questions. To the right of the bracket, the text 'Five questions, Five actions.' is written.

I am managing my time effectively.
○ ○ ○ ○ ○ ○ ○
Strongly disagree Strongly agree

I ate a healthy diet today.
○ ○ ○ ○ ○ ○ ○

I got enough sleep today.
○ ○ ○ ○ ○ ○ ○

I stayed fit today.
○ ○ ○ ○ ○ ○ ○

I minimized my distractions.
○ ○ ○ ○ ○ ○ ○

Five questions,
Five actions.

How does the user perceive themselves on each dimension of burnout?

For each question rated “Slightly disagree” or lower, the user is asked to provide a brief description of why they rated themselves that way.

Daily “snapshot” logs support reflection-in-action during the process of entering snapshots.

Supporting Reflection-on-action:

Dashboard Visualization

The purpose of visualization is to produce insight.

Ben Shneiderman's Infovis Mantra (2003)

overview first, zoom and filter, then details on demand

Minimize information overload – only describe details as necessary.

Interactivity allows for comparison across periods and more nuanced reflection.

Implementation Plan

Refine our implementation details

Develop a high-fidelity prototype in Figma

Recruit participants

Conduct the study

Synthesize data and iterate

The Study

Pre-trial questionnaire

Use of the Burnout Assessment Tool (BAT) (Schaufeli et al., 2020) to measure baseline burnout scores

Conduct usability tests

Participants verbalize their thought processes as they navigate the app
Researchers take notes on user flows

Post-trial semi-structured interview

What did they enjoy about the system? What did they not enjoy?
Is this something they can see themselves using?

Finally, we will synthesize data from study to draw insights, discuss findings, and iterate on our design.

[Burnout Assessment Tool \(BAT\)—Development, Validity, and Reliability - PMC \(nih.gov\)](#)