

# Instasched Report

Jake Miller, Walton Prest, Joey Kolly

# Introduction

- For our project we decided to make a wellness scheduling app that fills the free time in your day with activities that will make you more productive
- The motivation for the project was that in today's day and age people tend to get distracted by a lot of useless things that take away from their productivity/creativity
- To solve this problem we made a web app where the user was able to put the times of day that they are free and times where they are busy and the app fills in the gaps with specified wellness activities.

# Customer Value

- Creating an app that helps people be more productive will allow people to get their work done faster, get in better shape, and be more mindful of the things that they need to get done

# Technology

## Backend (Flask + Python)

- **Flask** serves four main routes:
  - `/` (**Home**)
  - `/build` (**Build Schedule**) handles GET (show form) and POST (process inputs).
  - `/library` returns the full activity list.
  - `/download.ics` reads the last schedule from `session` and uses the `ics` library to build an iCalendar file.
- **Scheduling Algorithm:**
  - **Parse inputs:** Convert “HH:MM” strings and busy-period ranges into `datetime` objects.
  - **Calculate free periods:** Subtract busy periods from the day window.
  - **Fill slots:** In each free gap, randomly select from activities whose duration fits—excluding any already used—to guarantee uniqueness.
- **Data Model:**
  - `wellness_activities.json` contains 40 items, each with `name`, `duration` (in minutes), and a list of `tags`.
- **Session Storage:**
  - The generated schedule list is saved in Flask’s `session` so that the download route can retrieve it without re-posting form data.

# Technology

## Frontend (HTML/CSS/JS + Bootstrap + Chart.js)

- **Template Inheritance:**
  - `base.html` defines the navbar, footer, and includes Bootstrap CSS/JS, Bootstrap Icons, Chart.js, and our custom `styles.css` and `main.js`.
- **Responsive Layout & Styling:**
  - **Bootstrap 5** provides the grid system and components (cards, buttons, modals, tooltips).
  - Custom CSS adds a light-blue page background, orange accent borders, card shadows, hover transitions, and a two-column preferences grid.
- **Interactive Enhancements:**
  - **Tooltips** on form labels (e.g. "What does this mean?") initialized in `main.js`.
  - **Pie Chart** showing distribution of minutes per activity, rendered by Chart.js in the schedule page.
  - **Export Button** styled with Bootstrap icon (`bi-calendar2-plus`).

# Team

Team roles: Everyone on the team did little bits of everything with Walton doing about 40% of the work and Jake and Joey each doing about 30% of the work

# Project Management

We completed most of the goals that we set for ourselves in a timely manner. There were so extra user features that we wanted to added but it started to go outside of the scope of a one semester class. Other than that we accomplished what we set out to do

# Reflection

I think this group had really good teamwork and we agreed about pretty much everything. This allowed for our tasks to get done quickly once they were started. I think we could have improved on our time management skills and not waiting to get everything done. Other than that everything went well and I think we did a good job on the project.