

# Campus Compass- Team 5

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## Project Team Members

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  2. **Market Researcher:** Emmanuel
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  4. **Devil's Advocate/Critic/"Jack of all Trades":** Zachary
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## 1. Executive Summary (Overview)

Campus Compass is a campus navigation application designed to reduce student lateness and the stress associated with getting lost. It is a digital guide that uses Augmented Reality and interior mapping to get students exact directions to their classes. The core problem it solves is the initial disorientation and anxiety that often plagues students during their first few weeks at a new university or well into their semester attending events at new locations.

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## 2. Market Research and Need Justification

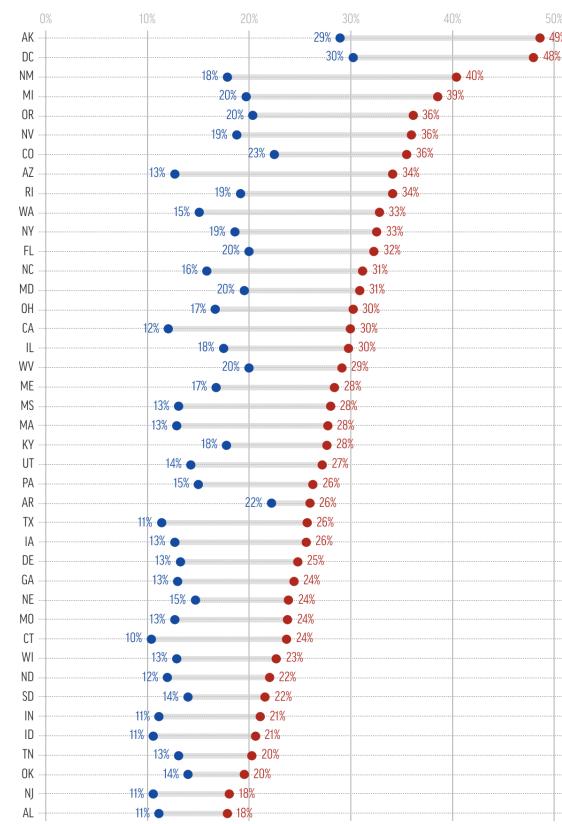
Campus Compass fills in the gaps in navigating the campus by providing ultra-detail augmented reality routes when previously, students would have trouble finding the specific classroom and could only be navigated to the front of the building. The initial disorientation and anxiety that plagues students is a well-documented issue. According to a 2023 NACAC Orientation Study, **68% of first-year students** report getting lost or being late due to poor signage or unclear directions within the first month alone (HootBoard). This struggle with navigation isn't just about tardiness; a majority of students report feeling 'lost' in university, which can negatively affect their GPA and lead to them considering dropping out ([loststudents.org](http://loststudents.org)).

All of this is crucial as chronic absenteeism becomes more prevalent. Chronic absenteeism is defined as a student missing 10% or more of the school year, and it has been shown to have negative consequences on academic achievement (Jordan & Miller). Data from RAND shows that chronic absenteeism is still a struggle for schools, with a 2024-2025 estimate showing it is notably above pre-pandemic rates (Dewey et al.).

This is reflected in this data from the departments of education across the United States. While the issue of absenteeism is complex and multifaceted, one contributing factor is a lack of clear navigation, which can lead to students feeling disoriented, overwhelmed and skipping out entirely. Although students and instructors themselves have not directly asked for the existence of this app, its place in the market is clear, especially as generations become more stressed and less prepared for the world as they enter college. It was noted by Carnegie Mellon University that the increased level of help younger generations get results in less experience navigating the real world. We believe that lack of navigational skills also applies to literal navigation and Campus Compass is the solution.

### Chronic absenteeism grew in every state

Share of students who missed at least 10% of the school year, 2018-19 versus 2021-22.



Hawaii, Montana, New Hampshire, and Wyoming were excluded because they used a different definition of chronic absenteeism.

Other states were excluded due to missing data in one of the school years.

Source: State departments of education / Graphic: Sharon Lurie, Thomas Dee

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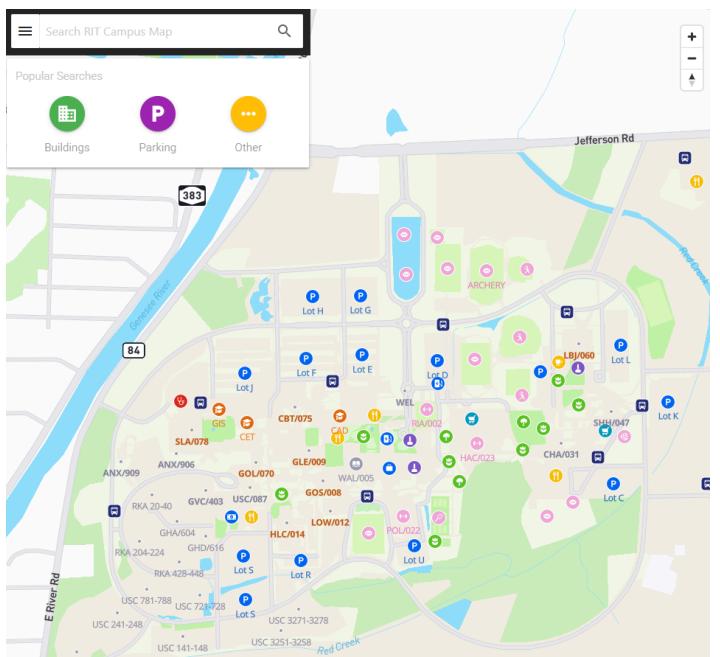
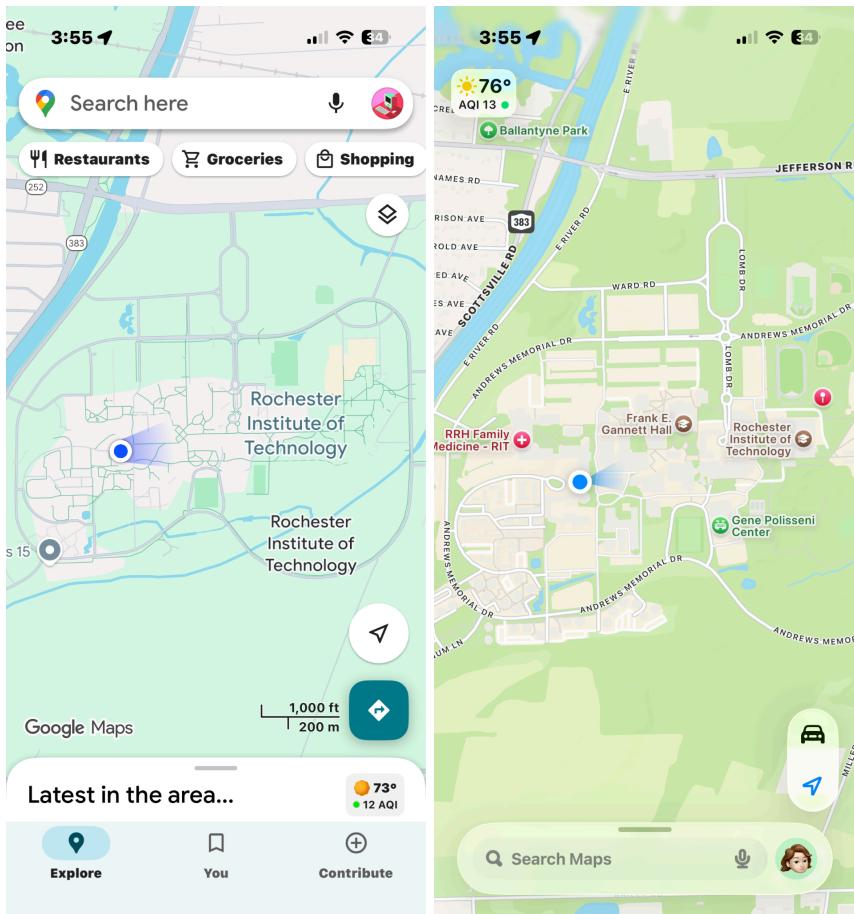
### Campus Compass VS Other Apps:

#### 1. Lack of Indoor Navigation

- a. Unlike traditional navigation apps like Google Maps and Apple Maps which only guide the user to the entrance of a building (and maybe not even the correct one), Campus Compass provides comprehensive indoor-outdoor mapping. We employ advanced mapping techniques that can really only be applied in more confined spaces like campuses. This mapping data is used in conjunction with augmented reality technology to provide an experience unlike anything available in traditional navigation apps or even many campus specific tools like [maps.rit.edu](https://maps.rit.edu) for Rochester Institute of Technology.

#### 2. Fragmented User Experience

- a. Campus specific tools often stop at the entrance much like Google and Apple maps and for a college student this is especially challenging because it could be so much easier. When you get to your building during your first week the campus map services exhaust its usefulness and you start googling to find a map or floor plan of the building. CampusCompass streamlines this experience making it much less stressful and much more user friendly.



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### **3. Product Description**

Campus Compass operates through an intuitive, Augmented-Reality map of every building on campus, allowing users to navigate through their day, promoting punctuality and efficient travel both to and from the classroom.

#### Augmented Reality (AR) Mapping and Navigation:

-This new and innovative feature allows the user's smartphone camera to determine the user's location within a building, much like the system described in research from the University of North Texas. This will allow the application to provide clear, turn-by-turn directions overlaid onto the user's real-world environment, a technique supported by research from ICAROB, which proposes using AR to provide geolocation data and seamless indoor navigation (ICAROB).

#### Point-to-point Routing:

-Users can input a specific building and room number for both the starting point and the destination (eg, "Fisch Hall, Room 5040, to Golisano Hall, Room 1680"), and Campus Compass will generate the most efficient and clearest walking path, accounting for hallways, stairs, elevators, and ramps.

#### Comprehensive indoor-outdoor mapping:

-Campus Compass features a highly detailed map that utilizes floor plans and detailed scanning to produce a 3-D model of all academic and residential buildings, along with dining halls, administrative buildings, and tunnel networks.

#### High-power searching:

-Campus Compass includes a detailed and robust search functionality to easily locate individual classrooms, labs, restrooms, dining options, offices, picnic grounds, recreational facilities, club areas, and much more!

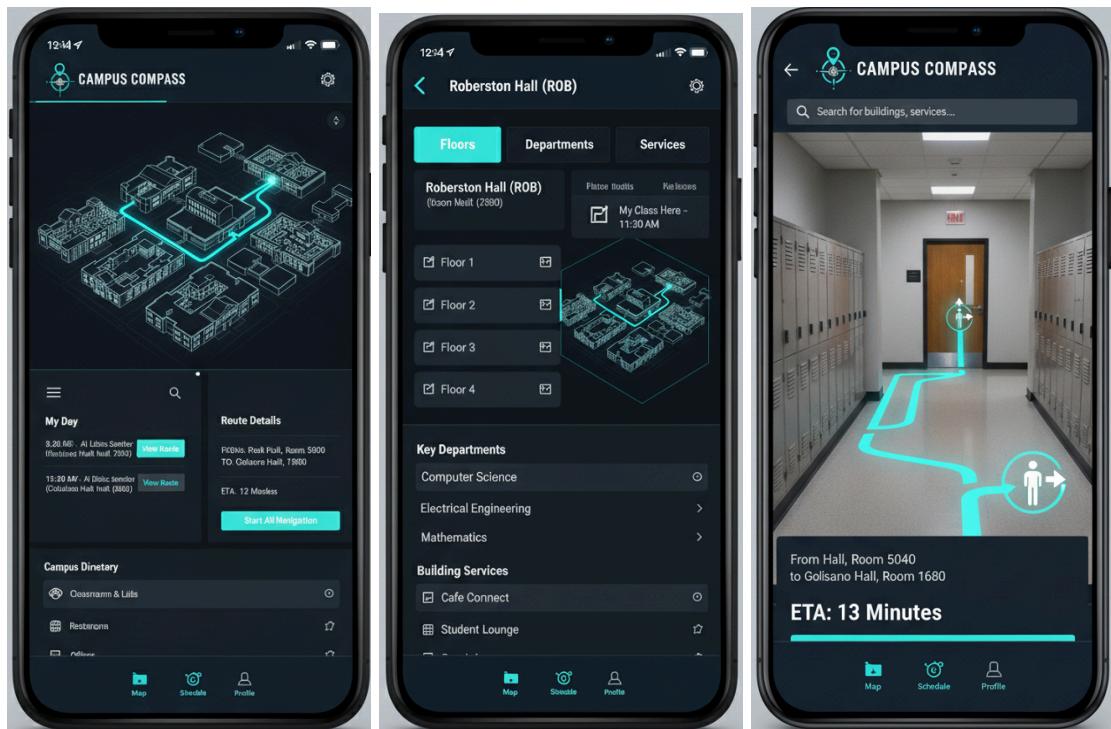
#### Expansive coverage:

-Campus Compass covers all areas of your campus and beyond, seamlessly integrating with a simple, easy-to-use network that can easily be replicated across every campus in the United States.

(Note- all of these product markups were generated using Google Gemini)



Potential App Icon



## 4. Possible Issues and Counterarguments

### *FAQs and Concerns*

This project is ambitious, and will have a large computational cost manifested in server upkeep, data collection, and increased network strain. Will it be worth the money and the resources?

- Yes. In addition to the time it will save students, Campus Compass will familiarize new faculty and staff with the campus faster. This can reduce training times, reduce costs, and increase productivity. Additionally, the new system can potentially *decrease* network traffic in some areas, since each interaction with Campus Compass will be more helpful and therefore more efficient than checking most universities' existing map webpages (like [maps.rit.edu](http://maps.rit.edu), for example).

Letting anyone route to any room on campus and letting them monitor foot traffic at all times is a massive security risk. What will be done to mitigate this?

- Simply put, Campus Compass is not available to everyone. To access it, users must pass through an online login page, with a two-factor authentication (2FA) check.

Wouldn't added security measures risk making the service inaccessible during its hour of need?

- Remember, the existing maps aren't going anywhere. If students still need to quickly find where a building is, they can look it up in a matter of seconds on the existing websites (in RIT's case, [maps.rit.edu](http://maps.rit.edu)). Campus Compass is for students who want to plan ahead and do a deep dive into their schedule.

What will keep users coming back?

- Let's think about this another way: what will make users leave? The need for navigation never goes away. A student may be attending the same courses week to week, but that doesn't mean they never have to navigate new places or plan new routes. Everyone can benefit from getting where they need to be quickly. The hope is that Campus Compass becomes ingrained in campus-goers schedules.
- We won't pretend that our product is equally beneficial at all points in the school year. Obviously, Campus Compass is most helpful at the beginning of semesters, particularly for incoming freshmen or transfer students. But we recognize that quality of impact is more valuable than the frequency of that impact, and Campus Compass will save enough time and resources during these crucial windows that it will pay dividends.

What about my data?

- The business model for Campus Compass requires that it is funded by the institutions themselves, not individual users, as individual users cannot provide the overarching campus data it needs. Every campus we map will be a committed partnership. As such, we have no use for your data beyond improving our app. We won't sell it to brokers nor will we use it to show you ads. All data collected is to make your walk to class faster and more efficient.
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## 5. Conclusion and Recommendations

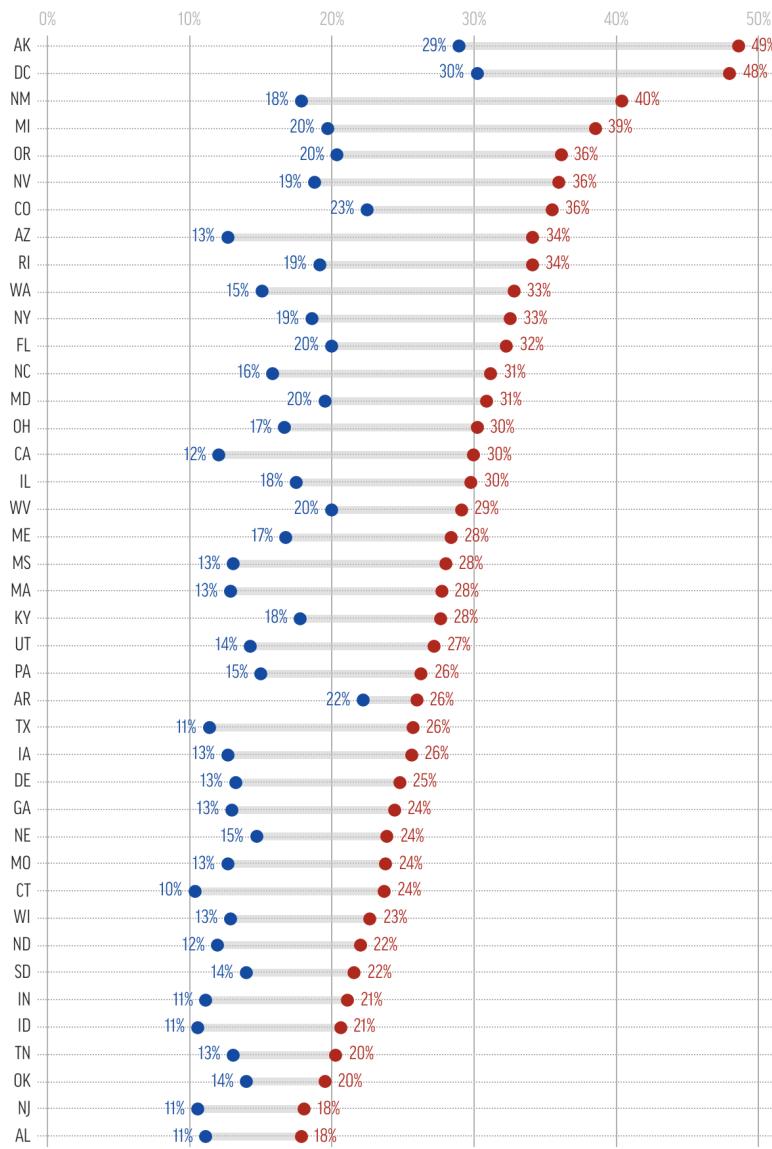
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The first weeks of class can be challenging, particularly getting to class on time. These challenges continue throughout the semester as students branch out into clubs and other activities that take them all across campus. A robust wayfinding system, such as Campus Compass, is a necessity for students as it reduces stress, saves time, and improves the overall student experience, making a positive first impression on new students (Mapsted). Our app provides the user with detailed AR or traditional directions providing both increased ease and speed in getting to class. This application would help countless students during one of the most stressful periods of the school year be able to find their classes and get to them with time to spare. Additionally, professors would see greatly reduced instances of students arriving to class late and missing material. With CampusCompass we can work to reduce chronic absenteeism as well as general student stress and we hope you join us in our mission.

## 6. Appendix

### Chronic absenteeism grew in every state

Share of students who missed at least 10% of the school year, 2018-19 versus 2021-22:



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"Millions of Kids Are Missing Weeks of School as Attendance Tanks across the US." *EdSource*,

<https://edsource.org/2023/millions-of-kids-are-missing-weeks-of-school-as-attendance-tanks-across-the-us/695460>. Accessed 22 Sep. 2025.

Abe, et al. "AR Based Application for Campus Navigation." *ICAROB*,  
<https://alife-robotics.co.jp/members2024/icarob/data/html/data/OS/OS18-3.pdf.sss>

"Mobile AR Application for Indoor Navigation." *University of North Texas*,  
<https://ci.unt.edu/dvxr/research/ar/ar.html>.

"Top Benefits of University and Campus Wayfinding Solutions." *Mapsted*, 2 Jan. 2025,  
<https://mapsted.com/blog/benefits-of-wayfinding-solution-on-campuses>.

"2/3 of University Students Feel Lost or very Lost." *Loststudents.org*,  
<https://www.loststudents.org/most-university-students-feel-lost-or-very-lost/>.

"The Silent Struggle of Campus Navigation & How Universities Can Solve the 'Lost Freshman' Problem." *HootBoard*, 10 June 2025,  
<https://about.hootboard.com/digital-signage/struggle-of-campus-navigation-how-universities-can-solve-the-lost-freshman-problem/>

Generation Credits-

Google Gemini was used to generate the three product markups for the product description