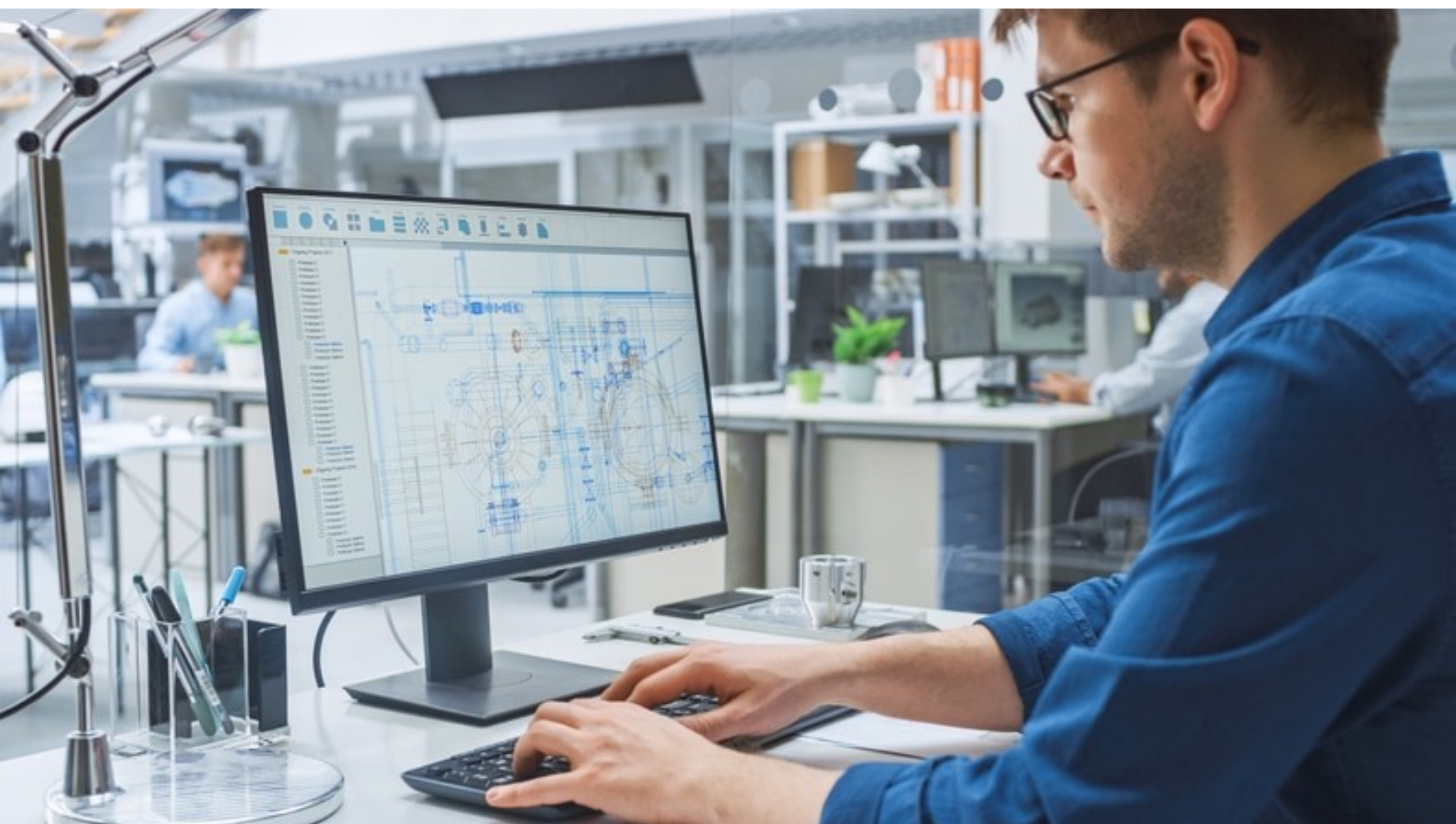


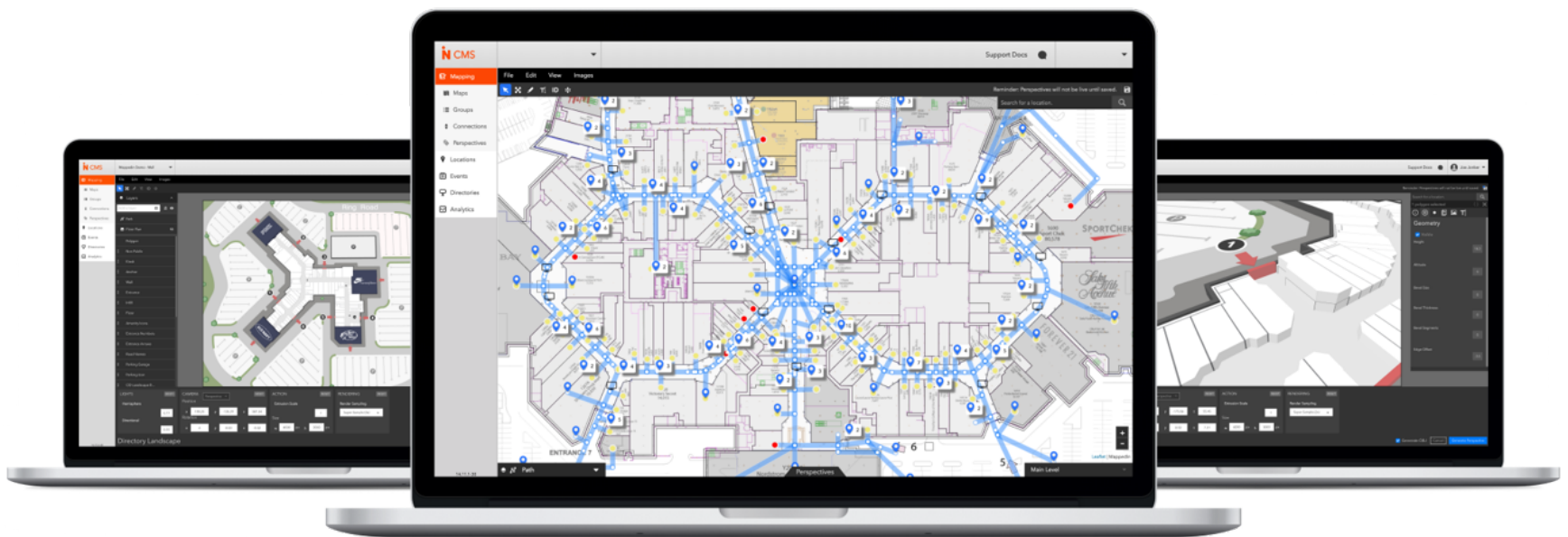
How to Create Indoor Navigation Maps & Experiences



How to Create Indoor Navigation Maps

Companies use [indoor navigation technology](#) to map large buildings, such as shopping malls, universities, airports, and building complexes. They provide visitors with important information about the venue. For places that offer an app, visitors can easily download the application or open it via the web to access the map with live updates in real-time. The technology combines the power of GPS with a highly accurate indoor positioning system (IPS).

Indoor navigation maps not only provide convenience for users, but also for the companies managing the property. Executives and operations managers can easily use indoor navigation maps to make updates, guide important decisions, and plan resources and facilities accordingly. While we know how indoor navigation maps can be beneficial for businesses and visitors, how exactly do you create one? In this guide, we will cover the nine basic step-by-step principles in creating indoor navigation maps.



What's in an Indoor Navigation Map?

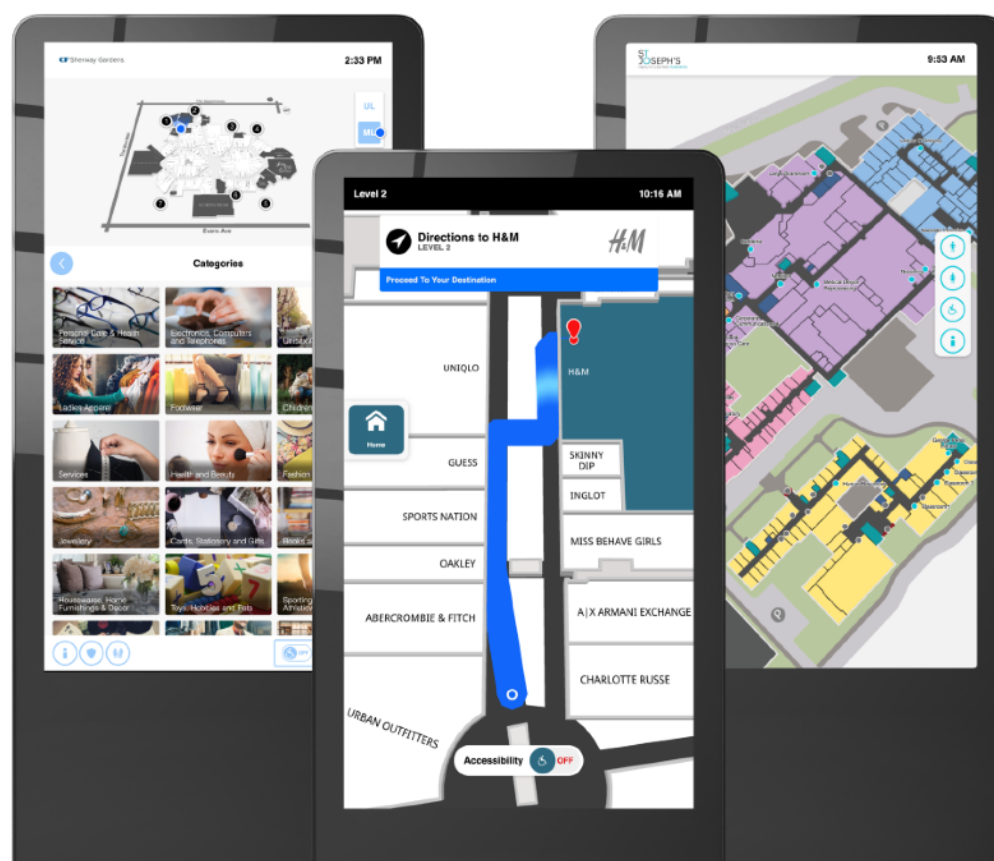
Different indoor navigation maps will present different mapping system information. For example, the Gatwick Airport navigation app leverages Augmented Reality (AR) to highlight routes that guide people towards their destination.

Regardless of the map creator or platform, there are several main things that indoor navigation apps should offer to the user:

- **Positioning:** Positioning determines user and destination locations.
- **Navigation:** Navigation technologies determine one or more best routes to a destination.

Map owners and editors can also expect access to facilities including:

- **Analytics:** Analytics display location-based details of visits, such as user behaviour, most popular location searches, etc.
- **Administrative functions:** Maintain and update maps in real-time, where you can communicate through your apps via options such as promotional offers and emergency alerts.



9 Steps to Create Indoor Navigation Maps

Indoor navigation maps can help you to improve the visitor experience and communicate with your users. You can also leverage indoor navigation maps to collect data, including the time of each visit, the duration, areas visited, and the number of interactions with devices connected to the IoT (Internet of Things). In order to map your building, share notifications, send and receive data, there are a number of things that your indoor navigation map needs to make all this happen. Here is how the indoor map is created.

01 Define Your Goals for the Map

When you're looking to build an indoor navigation map, it's important to define your indoor map goals at the outset. Your industry or workspace may require the use of an IPS for any number of specific reasons, for example, **smart workplace efficiency and safety** or perhaps to provide better service for your visitors. Take the time now to understand why you need navigation inside a building. Businesses may require indoor navigation for many reasons, in most cases they include:

Improved user experience

Harness the analytical power of your indoor navigation system to cultivate fresh insights into how people move within your indoor space and interact with what they came to do or see.

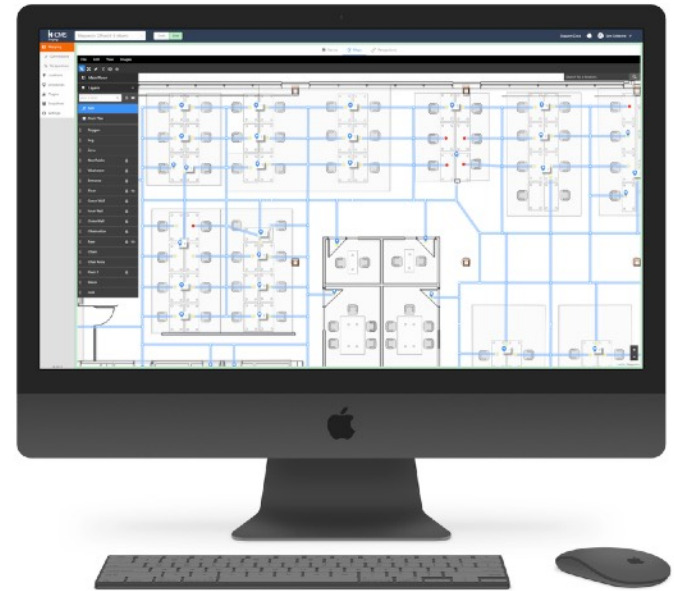
Easily accessible indoor navigation apps that display location in real-time and provide multi-stop off destination information can help provide user-friendly directions. People who can leverage wi-fi to access a familiar Apple Maps style GPS experience will enjoy their visit. People are familiar with wi-fi, GPS signals, and on-screen directions, hence the popularity of indoor IPS apps.

Space management insights

Your indoor positioning app can connect and communicate with IoT (Internet of Things) technology in your building to deliver location-based details and insights.

For example, one way that your indoor navigation app can integrate with IoT devices to produce insights into your office building is related to the movement of people. Are people always taking a specific route? Are there too many people in one area of the workspace? This data can help you manage the space and flow of your office area.

Analytics can help to power decisions on how to use the space over a short term and long term period, meaning you benefit from the best possible use of rooms and equipment. Leveraging the details of people's movements from place to place can help you to implement changes to slow-moving areas and even relocate resources to high-traffic areas.



Emergency communications platform

Perhaps you want to use indoor navigation **maps to prepare for emergency events** that may occur. You can use your indoor positioning software technology during an emergency to communicate information to smartphone users or to any other mobile device connected to the IoT set up in your building. Send alerts that detail the type of warning, escape routes, and designated safe meeting areas away from the building.

You can also use the mobile application to highlight the location of any relevant resources. For example, in an emergency such as a fire, your automated alerts could contain information as to the location of different fire extinguishers.

Your application can also help to highlight where alternative emergency exit routes were taken against the advice of the alert, meaning insights are available into finding and communicating the best emergency exits, perhaps consider leveraging fire drills to collect this data.

Long term asset tracking and data management

Indoor maps can connect to IoT enabled devices to help gain a better understanding of asset usage, meaning you can plan for visible long-term trends and reduce your interest in wasted assets.

For example, indoor navigation maps can be beneficial for warehouses and grocery stores that do shipping and packing. You can effectively help to map out the best routes and monitor the assets available in your facility.

With data management and tracking, you will also be able to forecast the type of products and how much product is needed during a specific time period. In addition, you could even consider moving product locations around your warehouse based on their popularity for easier packing.

Increased energy efficiency

Indoor navigation maps linked to IoT devices can give broad and specific insights into how people use and interact with the building. The data could range from indicating entry point usage, floor use, room use, and use of IoT devices.

Your maintenance staff can view details via the app on a mobile device, allowing for proactive maintenance planning that extends to the life of systems and devices (thus reducing costly one-off instances of reactive maintenance).

The app can also store data, meaning people can keep track of building maintenance and pass on information from any relevant tests, unit inspections, or system checks.

Incentivize employee interactions

Employees need better access to technology that enables project collaboration. One way in which your indoor navigation map can help is to highlight all available meeting spaces in real-time and facilitate instant bookings. This helps your workers to save time, expedite interactions, and boost productivity.

02 Identify the Best Indoor Mapping Solution

The next step in creating indoor navigation apps is to **decide on an indoor mapping solution** that best suits your needs. When choosing an indoor mapping solution, there are several things to consider:

Their years of experience - Make sure you conduct research for the company you're planning to work with. There are a number of options available on the market, so it's critical to find one that is reliable and trustworthy.

The number of clients they have worked with - This is just as important, if not, more important than their years of experience. A company that has been in the market for a long time, but without many case studies, could be a company you would want to caution. Companies like Mappedin for example, have worked with over 600 venues across the world and in more than 25 countries. Their experience in the field is extremely extensive.

Square feet mapped - Ask the indoor mapping solution how many square feet they have mapped. This number can be important to see how much work they have done in the industry. You can also find out to see whether they've worked with venues that are of similar size as yours.

Add-ons and collaboration ability - For many businesses, they want to ensure their indoor mapping solutions can work with their existing technology. For example, you may want to search for a service provider that can easily integrate with your current website. They should also have the flexibility to allow you to have add-ons to your system in the future.

Support service - Your indoor mapping solution service provider should provide support services for your company. System failures and technological bugs can affect your visitors' experience, especially if your indoor mapping solution is for a shopping mall. Therefore, make sure your service provider provides sufficient support. Mappedin, for example, provides 24/7 support to ensure their customer's success and give them peace of mind knowing that they will always be available for help.



03 Source Your 2D Floor Plan

The features within different indoor navigation programs will vary depending on the platform. Each service providers' process of creating indoor navigation maps will be slightly different as well. However, one thing is common for all providers - your 2D map (floor plan) is the basis for your 3D map.

That's why consistency is key when it comes to creating an indoor navigation map. At Mappedin, we create digital maps at scale within our CMS by leveraging automation and our professional mapping team. We convert 2D maps into 3D maps by digitizing all mapping data in 2D vector polygons and rendering them into 3D from multiple perspectives.

From floor plans to key points of interest, our design format allows us to maintain the accuracy of our clients' location data. The digital maps are geo-referenced to real-world measures so that they appear "in place" and aligned with real world coordinates. Our professional mapping team will apply location and styling data, as well as our client's branding into the map design to ensure it's consistent with their own platforms.

Keeping your indoor navigation maps accurate is another important factor too. Mappedin's collaborative Editor tools ensure that the mapping experience remains accurate and consistent whenever clients need to update their maps. Precise location data and accurate maps provide clarity, consistency, and saves time in the future when you're adding new details and location details.

04 Identify Key Points of Interest

Your indoor mapping solution should allow you to introduce Points of Interest (POIs). POIs fill your map with features that allow people to navigate with ease. Here are a number of POIs to consider including in your indoor map:

- **Access points:** Including building accessibility, such as entrances, ramps, stairs, toilets.
- **Amenities:** These could be whatever you have available, including vending machines, ATMs, pay phones, etc.
- **Visitor safety:** This could include first aid kits, a security desk, or lockers.
- **Other:** Think of business-related useful items or features, including meeting rooms, projectors, speakers, stage area, and more.

POIs improve apps by helping visitors to navigate quickly between areas of interest. Your indoor map can include a legend to have a symbol that represents the service, which allows visitors to easily locate what they need and where they can be found on the map.

05 Collect Location Details

Collect all other location details for your building. If you're **creating an indoor navigation map for a mall**, you would need to collect all the shops available in your mall, categorizing them into their specific type and audiences. This type of information is extremely important to help customers navigate through your shopping centre.

To **create an office map**, you may need to map out specific locations like the common areas, offices, or meetings rooms. Gather the details of where these places are located and share them with your indoor mapping service provider. By creating a list of your location details, the indoor mapping service provider can easily upload the details onto the system. You can also make changes with ease in the future as well.

06 Geo-reference to Real World Measurements

The most important part of an indoor map, or any map, is accuracy. Georeferencing software gives real dimensional coordinates to a digital entity. Where the physical properties of your building or venue move or change (internal or external), georeferencing to real-world editing tools can map those changes with a high degree of accuracy. It is important to ensure that the indoor mapping vendor you choose has the ability to geo-reference to real world measurements.

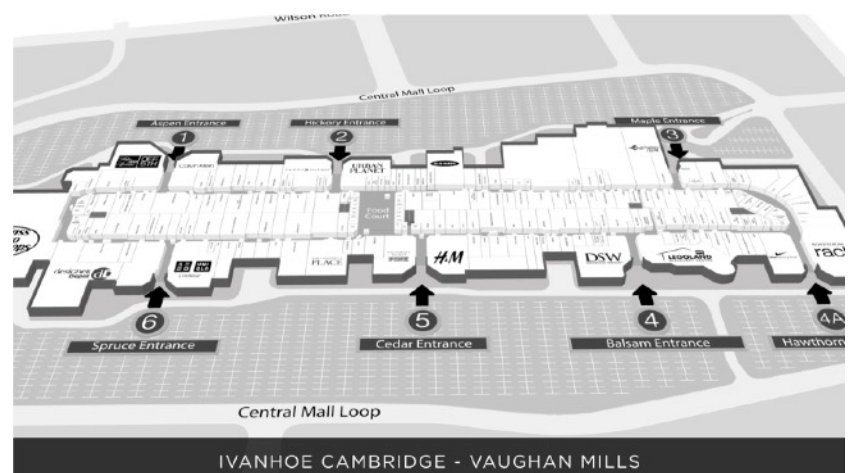
That means you can keep your map up to date by leveraging software that can alter wall lengths, move doors, introduce pathways, and so on, as well as providing real-world context and direction for those using your map.



07 Incorporate Your Branding

Your branding plays an integral role in the success of your indoor maps. Your brand is how your visitors view your products.

Make sure you can add your logo to the indoor navigation map. This ensures the map is branded and reflects the style of your company. In addition to your logo, you may want to consider using the same typography and colours as your brand. If your company has a brand style guide, share it with your indoor mapping service provider to incorporate it into the system. This way, everything from your website, indoor map, and the app is consistent.



08 Integrate CMS Data

Sync your CMS data with the indoor navigation platform's CMS to view an integrated centralized user platform. Leverage the editor tools to ensure that your indoor navigation app is up-to-date with regular imports and syncs.

09 Maintain Map Accuracy

An efficient map creates a better user experience. Updates will need to be made as the space changes or as you understand the flow and usage of your space more.

Where possible, leverage the indoor navigation platform's built-in **draft and publish tools** to ensure that you maintain map accuracy. These features ensure that you can make and preview changes to your map before publishing.

While at the preview and go-live stage, pay attention to map rendering across devices and screen sizes. Ensure your map is responsive to screen size and appears as you intend across devices.

Don't forget to leverage events management tools to maintain map data accuracy. Add temporary information covering dates of indoor events, times, and details. You can delete these details once the event has passed.

Also, consider granting editor permissions to other members of your team. Where multiple people have access to your indoor navigation project, you can collaborate on maintenance duties, ensuring there is always someone available to address any map accuracy issues.

Mappedin: A Trusted Choice

Creating an indoor navigation map can take a lot of time and work without the right tools. Luckily, there are reliable service providers on the market like Mappedin that can bring your indoor navigation map to life and give you easy-to-use tools to maintain your maps across multiple experiences. Interested in implementing an indoor navigation map for your business? [Contact us](#) today for a free demo!