



SPACE SURFER

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Product Overview

SpaceSurfer is a tool used for accelerating productivity for users ranging from employees at a company, to everyday individuals. For public users, SpaceSurfer provides seamless access to a wide range of spaces, offering a convenient way to plan and utilize public amenities. For employees, the application offers specialized features which enables them to make reservations within their office environment, ensuring a productive and organized workspace, both in person and virtually. With customizable access levels and tools for responsible usage, SpaceSurfer provides effective administrative control tailored to individual management needs. By streamlining the reservation process, SpaceSurfer eliminates the need for time-consuming searches and promotes collaboration and teamwork. Empowering organizations to make the most of their resources, SpaceSurfer contributes to a more productive and well-coordinated environment, whether for work or leisure.

Goals

- **Enhancing Productivity:** Offer an all-in-one user friendly platform that provides tools and features that not only accelerate daily productivity for both employees and individuals but also streamline the reservation process, eliminating time-consuming searches and ensuring hassle-free bookings.
- **Effective Administrative Control:** Offer tools and controls that enable effective administrative oversight and management of reservations and floor plans.
- **Specialized Features for Employee Reservations:** Equip employees with specialized features for reserving spaces, utilities within their office environment, both in-person and virtually.
- **Facilitating Access and Convenience for Public Users:** Ensure that public users can effortlessly discover and reserve a wide range of amenities, providing them with a convenient and seamless experience when planning their activities.
- **Customizable Access Levels:** Provide customizable access levels to cater to individual management needs, granting appropriate permissions for reservation and usage.
- **Browser Compatibility:** SpaceSurfer is crafted to seamlessly operate on both desktop and mobile platforms, ensuring user-friendly access across various devices.

- **Security:** Implement robust protocols to safeguard user data and adhere to CCPA regulations. Additionally, provide users with the ability to easily remove their data from our database.
- **User Friendly Experience:** creating a simple and straightforward interface that is easy to use and accessible to everyone.
- **Promoting Collaboration:** Cultivate a collaborative environment among remote and in-person employees resulting in heightened productivity and teamwork.

Target Audience

SpaceSurfer caters to a diverse range of users, from individuals seeking seamless access to public amenities, to employees and facility managers looking to optimize their workspace reservations whether they work in-person or remotely.

- **Public Users:** This includes individuals looking to reserve public spaces like restaurants, libraries, and parks for various activities and events.
- **Employees:** Those working in organizations, remotely or in-person, that want to efficiently manage and reserve office spaces, cubicles, and utilities.
- **Facility Managers:** Professionals responsible for overseeing and optimizing the use of spaces within an organization.
- **Office Building Managers:** Any type of business or entity that seeks to enhance productivity, provide utilities, and promote collaboration among its employees.

Use Cases

Office Building Admin:

- Add Floor Plan: The Office Building Admin can upload and add new office or parking floor plans to the system, ensuring that the workspace layout is up to date.
- Delete Floor Plans: The Office Building Admin can remove old floor plans.
- Add Inventory: The Office Building Admin can add new rentable inventory items.
- Deleting Inventory: The Office Building Admin can remove new rentable inventory items.
- Managing Scheduling: The Office Building Admin can delete or modify reservations.
- Monitoring Reservations: The Office Building Admin has access to view all booked office spaces and amenities.
- Removing User Accounts: The Office Building Admin has the authority to remove the user account from its Office Building group.
- Specify Business: The Office Building Admin can specify they are a business and receive a business group code to give to their employees.
- Deleting Account: The Office Building Admin can delete the Office Building Account and all associated information when needed, ensuring data security and compliance

Facility Manager Admin:

- **Add Floor Plan:** The Facility Manager Admin can upload and add new office or parking floor plans to the system, ensuring that the workspace layout is up to date.
- **Monitoring Reservations:** The Facility Manager Admin has access to view all booked spaces.
- **Delete Floor Plans:** The Facility Manager Admin can remove old floor plans.
- **Specify Leisure Type:** The Facility Manager Admin can specify what type of space they are such as Library, Restaurant, etc.
- **Managing Scheduling:** The Facility Manager Admin can delete or modify reservations.
- **Deleting Account:** The Facility Manager Admin can delete the Facility Account and all associated information when needed, ensuring data security and compliance

Public Users:

- **Viewing Facility Types:** The Public User can view all types of facilities such as libraries, restaurants, etc.
- **Viewing Facility Space Bookings:** The Public User can view all facility space available for booking as well as the ones that have been booked

- **Reserving Facility Spaces:** Public Users can specify a date and time to reserve an available facility space.
- **Personal Reservation Management:** The Public User can modify the timing, duration, or type of space of their own reservation.
- **Account Deletion:** The Public User can delete their account, ensuring the removal of all saved information.

Employees:

- **Join Group:** Employees can join a business group for their company with a valid business group code
- **Viewing Office Space Bookings:** The employee can view all office space available for booking as well as the ones that have been booked
- **Reserving Spaces:** Employees can specify a date and time to reserve an available workspace, such as a desk, conference room or parking spot.
- **Viewing Facility Types:** The Employee can view all types of facilities just as Library, Restaurant, etc.
- **Viewing Facility Space Bookings:** The Employee can view all facility space available for booking as well as the ones that have been booked
- **Reserving Facility Spaces:** Employees can specify a date and time to reserve an available facility space.

- **Reserving Utilities:** Employees can specify a date and time to check out an available utility listed by their Office Building Admin, such as a fan, monitor etc.
- **Personal Reservation Management:** The employee can modify the timing, duration, or type of space of their own reservation.
- **Account Deletion:** The employee can delete their account, ensuring the removal of all saved information.

Scope

SpaceSurfer is a web-based application designed to streamline facility management for various organizations, spanning from office spaces to public amenities like restaurants, libraries, and parks. With a focus on user-friendliness, SpaceSurfer prioritizes reservation accuracy and respects time constraints. Focusing on security, SpaceSurfer implements robust measures in place to safeguard sensitive data across all facility types, ensuring compliance with privacy regulations. SpaceSurfer seeks to improve user experience, organize and optimize resources, and improve time management. The product will be compatible with the desktop and mobile version of Google Chrome and end development by May of 2024.

User Type

1. **Super Admin:** Oversees security measures, and makes high-level decisions to optimize the user experience and facility management process.

Access:

- Ability to add and delete floor plans
- Ability to view all bookings
- Ability to delete or modify users' reservations
- Ability to reserve available spaces
- Ability to delete or modify personal reservations
- Ability to manage user permissions
- Ability to delete accounts

Impact: Super Admin is the highest level of authority in the system and has the most extensive access. They oversee the data management, user security, user accounts and more. Super Admin impacts the overall success of the product by taking responsibility for maintaining the system, security, and efficiency.

2. **Admin:** Office building owners responsible for overseeing and managing office space, utility, and parking spot reservations within their organization.

Access:

- Ability to add and delete office floor plans
- Ability to add and delete rentable inventory for employees
- Ability to add and delete reservable parking spots
- Ability to delete or modify employee's reservations
- Ability to reserve spaces
- Ability to delete or modify personal reservations

- Ability to view all office spaces' bookings
- Ability to delete account and all saved information

Impact: Office building owners play a critical role in ensuring efficient resource allocation and resolving any scheduling conflicts. Their actions impact the overall organization's productivity and resource utilization, as they maintain order within the office space reservation system, making it an integral part of their daily workflow.

- 3. Admin:** Facility managers responsible for overseeing and managing space reservations within their organization.

Access:

- Ability to add and delete space floor plans
- Ability to delete or modify public user's reservation
- Ability to reserve spaces
- Ability to delete or modify personal reservations
- Ability to view all facility's bookings
- Ability to delete account and all saved information

Impact: Facility managers oversee and manage all reservation needs for spaces used by the general public. In addition to making sure that all floor plans are available and up to date, they will ensure that bookings go smoothly and are made without conflicts. In situations where there are mishaps, facility managers will have the tools necessary to make changes needed for operations to run as expected.

4. **Normal User:** Employee who works remote or in-person in the office building.

Access:

- Ability to view office floor plan
- Ability to reserve conference room, phone booth, and cubicle space as long as there are no time conflicts
- Ability to rent out inventory provided by the company
- Ability to reserve space outside of office building
- Ability to delete or modify personal reservations
- Ability to provide feedback regarding the space they have reserved to corresponding admin
- Ability to delete account and all saved information

Impact: Employees impact OfficeSurfer, as their engagement with the platform drives daily resource bookings and reservations. By utilizing the platform to access and reserve available spaces, they contribute to the efficient utilization of resources. Their interactions enhance the overall productivity of the workspace by ensuring that employees have access to the spaces they need when they need them, fostering a more coordinated and productive work environment.

5. **Normal User:** General public users who need to seek to reserve spaces outside of a professional work environment.

Access:

- Ability to reserve restaurant table, park tables, and public library space as long as there are no time conflicts
- Ability to view spaces available for reservations. These include restaurants, park tables, and public libraries.
- Ability to delete or modify personal reservations
- Ability to delete account and all saved information
- Ability to provide feedback regarding the space they have reserved to corresponding admin

Impact: General public users allow SpaceSurfer to cater to all types of users, not just those who seek reservations in a professional setting. Extending SpaceSurfer's features and capabilities to both private and public avenues increases our scope of outreach since more people can experience the conveniences that our website provides.

Competitors

Many of our competitors such as Officernd and Skedda provide a way for admins to create their floor plan and reserve spaces.. Another competitor Planyo provides an online reservation system that allows its users to rent and reserve spots that are for general purpose. The way that Office Surfers differentiates from this competitor is by not generalizing our reservations and places, but instead focus mainly on boosting the productivity of the users that are in need of resources as a solution for their desired work environment and mental focus. Office Surfer also

takes in user feedback to better increase the overall quality of what we provide as well as recommendations on what we suggest is needed to suit the user's needs.

Features

Phase 1:

1. Registration:

- Description: Implement a user registration system that allows users to create accounts using a unique email, username, and password.
- Value: This establishes a foundation for user access, ensuring data security, while enabling personalized experiences and reservation tracking
- Constraints: Ensure compliance with data privacy regulations (CCPRA) and implement strong password policies.

2. Authorization and Authentication:

- Description: Implement an authorization and authentication system to ensure secure access to the platform.
- Value: Ensure the right people are granted different roles by implementing secure user authentication and role-based access control. This ultimately provides additional security.
- Constraints: Users can have a combination of roles, which may have different levels of access and permissions within the platform.

3. Login/Logout:

- Description: Develop a login and logout functionality to enable users to securely access the platform and terminate their sessions when needed.
- Value: This feature uses username and password authentication to enhance security, ensuring individuals can securely access their personal accounts while protecting their identities.

4. Specify List of Reservable Spaces:

- Description: Enable admins to upload reservable spaces within the platform. Administrators must specify unique space IDs and categorize spaces (e.g., conference room, phone booth, cubicle space). This list will match the unique IDs labeled in the office floor plan.
- Value: Allow admins to have full control of the floor space. Admins are able to manage and categorize spaces, offering users a wide array of options for meetings, work, and collaboration.
- Constraints: This feature is only functioning for super admins and admins. Normal users will be able to view the list.

5. Upload Floor Plan:

- Description: Enable admins to upload and office floor plans and layouts within the platform. This feature allows administrators and facility managers to visualize and allocate office spaces efficiently.

- Value: Provide a visual representation of the work space layout, making it easy for employees to choose a space to work in.
- Constraints: This feature is only functioning for super admins and admins. Normal users will be able to view the floor plan. Authorized users will be able to add and delete office floor plans. Each space will be labeled with a unique ID.

6. Add Inventory List :

- Description: Enable Business admins to upload a list of utilities or tools that can be rented by the businesses employees. Administrators must specify how many of that specific item are available.
- Value: Helps employees easily check item availability, while admins can oversee allocation to prevent overbooking. This feature also streamlines access to resources, enhancing overall workplace efficiency and productivity.
- Constraints: Normal users cannot directly modify this list and can only reserve items that are available for the specified time slot.

7. Inventory Item Reservation:

- Description: Allows Employees to reserve specific inventory items for their use within the organization. Employees can select the item they need from the inventory list, specify the date and time of their reservation, and indicate the duration of the reservation.
- Value: Helps employees easily check item availability, while admins can oversee allocation to prevent overbooking. This feature also

streamlines access to resources, enhancing overall workplace efficiency and productivity.

- Constraints: Users cannot reserve if the desired time slot is taken. Users cannot reserve space outside of normal business hours. Users cannot reserve a space for a time that has already passed.

8. Display the List of Reservable Spaces:

- Description: Create a comprehensive list of reservable spaces displayed underneath the floor plan image. All users can easily find the matching space ID, which is clearly displayed both on the floor plan and in the list of reservable spaces.
- Value: This feature simplifies the reservation process by offering users a clear and organized list of available spaces to choose from.

9. Space Reservation:

- Description: Enable users to select a space to reserve from the list that corresponds with each floor plan. Users will need to specify the date, time, and duration of their reservation.
- Value: This feature ensures users secure space that meet their requirements
- Constraints: Users cannot reserve a space if the desired time slot is occupied. Users cannot reserve space outside of normal business hours. Users cannot reserve a space for a time that has already passed.

10. Availability Display for Reservable Spaces:

- **Description:** Implement a visual indicator for each item in the list of reservable spaces, indicating whether the space is currently booked or available. Additionally, display the booking time range, specifying when the space is reserved.
- **Value:** This feature provides users with real-time information about space availability, allowing them to make informed decisions when selecting and reserving spaces. Users can quickly identify which spaces are currently in use and plan their bookings accordingly.
- **Constraints:** Use clear and intuitive colors to indicate availability and booking times.

11. User Data Deletion:

- **Description:** Implement a user-initiated data deletion feature that allows users to request the removal of their personal information and reservation history within the platform. This feature should adhere to CCPA (California Consumer Privacy Act) guidelines and provide a clear and straightforward process for users to exercise their data deletion rights.
- **Value:** This feature prioritizes user data privacy and compliance with regulatory requirements, ensuring that users have control over their personal information. It enhances user trust and demonstrates a commitment to data protection.

- Constraints: If an admin wishes to delete all of their user data, it will also delete all information associated with the office floor plans they have uploaded.

12.Space Time Limit

- Description: Allows admins to upload the time limit for each space throughout the office.
- Value: This feature ensures that spaces are used for the appropriate amount of time and are available to others throughout the work day.
- Constraints: Only admins are allowed to upload the time constraints.

13.Notifying User Error:

- Description: Implement a popup message denying booking when users attempt to:
 - Reserve a space that is already booked for the selected date and time
 - The reservation falls outside of designated work hours
 - The reservation duration exceeds the specified limit
- Value: This feature prioritizes user experience by delivering helpful error messages that guide users when their reservation requests do not align with workspace policies, ultimately improving overall user-satisfaction.

14. Separate admin layout versus normal user layout:

- Description: Implement a feature that changes the layout of the website based on the user's role. Admins will access a specialized

layout tailored for managing reservations within an organization, focusing on office spaces. On the other hand, normal users will experience a layout featuring a wider range of reservable spaces, including restaurants, park tables, public libraries, and office spaces.

- Value: This feature allows for a cleaner website look and greater user experience since it separates the features catering to the unique needs of both company employees and the broader public user base.

Phase 2:

1. Space Categorization:

- Description: Implement a categorization system that divides the list of reservable spaces into distinct sections based on facility category. Users can easily navigate and select spaces within their desired needs.
- Value: This feature enhances user experience by providing a well-organized list of spaces, allowing users to quickly find and reserve spaces that match their specific needs.

2. Booking Information Display:

- Description: Implement a feature that displays the user, date, and time slot associated with each booked item in the list of reservable spaces.
- Value: This feature enhances transparency by providing visibility into who has booked each space. This also allows users to determine a

time they are able to reserve a certain space if it is booked or choose a different spot to work at.

3. Personal Overview:

- Description: Implement a section that provides users with a comprehensive list of all personal bookings scheduled for the day. Users can view details such as the date, time, reserved space, and occupant name for each reservation.
- Value: This feature enhances transparency and planning by offering users an overview of upcoming reservations for a substantial time frame. It allows users to anticipate space availability and make informed decisions about their bookings.

4. Space Feedback:

- Description: Implement a section where users can share their comments, suggestions, or concerns about a space's amenities, such as air conditioning, Wi-Fi quality, seating comfort, or any other relevant aspects. This feedback will be collected and sent to administrators for review and potential improvements.
- Value: This feature encourages user engagement and provides a direct channel for users to contribute valuable insights about reservable spaces. It enables administrators to gather feedback, identify areas for enhancement, and continuously improve the workspace environment.

5. Space Capacity:

- Description: Implement a feature that displays the maximum capacity of each reservable space.
- Value: This feature enhances user experience by providing critical information about space capacity, ensuring that users can choose spaces that accommodate their needs while adhering to occupancy limits.

6. Reservation Confirmation Email:

- Description: Implement an automated email confirmation system that sends detailed booking confirmations to users immediately after they make a reservation within the platform. The confirmation email includes reservation details, such as date, time, and reserved space.
- Value: This feature provides users a record of their reservations, enhancing trust and confidence in the platform.
- Constraints: Email will be sent to the address the user registered the account with.

Dependency Unknowns

Office Floor Plan

- Admins must enter an image of the floor plan, and a list of reservable spaces
- Without this, Office Surfer wouldn't be able to display available seatings or have any information about the offices

Budget

Developer Team Cost

| Developer | Cost | Quantity | Total |
|-----------------|------------|--------------|--------------------|
| Brandon Galich | \$37.90/hr | 256 hours | 9,702.40 |
| Kay Kayale | \$37.90/hr | 256 hours | 9,702.40 |
| Jason Lam | \$37.90/hr | 256 hours | 9,702.40 |
| Sarah Phan | \$37.90/hr | 256 hours | 9,702.40 |
| Carine Gordillo | \$37.90/hr | 256 hours | 9,702.40 |
| Sarah Santos | \$37.90/hr | 256 hours | 9,702.40 |
| | | Total | \$58,214.40 |

Dependencies and Tools Cost

| Service | Cost | Quantity | Total |
|---------|------------------|--------------|---------------|
| AWS | \$1.50 per month | 6 months | \$9 |
| | | Total | \$9.00 |

Vision

Office Surfers can potentially mark the beginning of changing the way organizations encourage productivity. With its user-friendly web app displaying reservable spaces and their descriptions, individuals will find it easier to locate

and book suitable spaces, in order to get ahead of their schedule. Employees will also be able to have an active role in improving the workplace culture and environment through their reviews that notify the admin of what improvements could be done. Whether it's a place to work, study, or collaborate, Employees can optimize their environment all through a unified platform and plan their day. Overall, Office Surfers has the power to change space management, making it more productive, inclusive, and tailored to the needs of both organizations, employees, and individuals.

Glossary

Business

Admin: Office building owners responsible for overseeing and managing office space, utility, and parking spot reservations within their organization.

Floor Plan: A visual layout of office space showing the arrangement of workspaces and rooms

Inventory : List of utilities that are provided by Business and are available for its employees to check out .

Normal User (Employee): Employee who works remote or in-person in the office building.

Normal User (Public Users) : General public users who need to seek to reserve spaces outside of a professional work environment.

Super Admin: Oversees security measures, and makes high-level decisions to optimize the user experience and facility management process.

Technical

API (Application Programming Interface) : Protocols that allow different software applications to communicate and interact

CCPA (California Consumer Privacy Act): Law in California that gives consumers more control over the personal information that businesses collect about them. (<https://oag.ca.gov/privacy/ccpa>)

AWS (Amazon Web Services): A cloud computing platform that provides various resources for things such as storage and databases.