

TSRB Room Reservations
(basic html mockup: <http://www.pamgriffith.net/demo/roomres/>)

Task and Users

I am creating a prototype of a system that allows people to reserve a conference room for meetings in TSRB. Meetings can consist of people associated with Georgia Tech and outside visitors, but the people that reserve the room are generally Georgia Tech staff and faculty and perhaps some students. Therefore we can assume certain characteristics about the users, in particular that they speak English (to some degree), have a high level of education and exposure to technology, have access to computers, range in age from 20s (grad student age) to retirement age (60s-80s?). Some will have physical disabilities, but mental disabilities may be more rare due to the affiliation with a university.

Meetings are organized by people who work at TSRB, other researchers and lecturers from elsewhere in the university, other TSRB and Georgia Tech staff members, people who are contact points for outside organizations that want to give talks to people on campus (e.g. job recruitment meetings), and perhaps students (probably grad students). They will want to reserve rooms for single meetings, for lecture series that last the entire quarter, or for meetings that span several days. They may want a particular room and will settle for any day so long as the room is available, they may need a particular feature for their meeting (e.g. tables so people can face each other), or they may have very strict time constraints and don't care about the other things.

I have chosen to create a website because it is the most convenient way to reserve a room. I had considered using the kiosk that already exists in the lobby; from there it would be possible to find a particular room based on some feature and to do other things like reserve for the semester without writing things over and over. However, the kiosk is only accessible from one place: the TSRB lobby. A website is easily accessible from anywhere with an internet connection (e.g. any campus computer cluster or wireless hub) so one does not have to go to the building itself in order to reserve a room.

The Design:

The website will be divided into three ways to reserve a room: by date, by room, and by amenities. If the date of the meeting matters most and the user does not care as much about which room it is or what the room has in it they should use the "by date" option. If the user wants to use a particular room, for instance if they are used to meeting in that room already or that room has some feature they like they should use the "by room" option. If the user needs some particular item like a white board for their meeting or the room must be a certain size then they should use the "by amenities" option.

There is also another section that allows users to look at all events and edit the ones they submitted. These options will be organized into tabs along the left side of the page, which is a standard, easy to use and understand method of navigation on the web.

Reserving By Date

The option to reserve by date and time will be the default option because I am assuming that date and time are what people care about most when planning a meeting, more than room or other features. This may not be a true assumption, but I would need data from users to know that.

The Date and Time page (Sketch 1) will feature a clickable calendar and a multi-select box for times. The calendar will display the current month by default with days before the current date shaded and unselectable. The user will be able to select a single day or multiple days, and they may choose to reserve a room for any single one of those days or for all of them if they want a multi-day meeting. There should be instructions above the calendar about how to select multiple days, though these do not exist in the drawing.

Depending on how much in advance TSRB rooms are booked, it may not be a good idea to have the current month by default. Instead, it might be better to have the month with the first available rooms, with all days where no rooms are available also shaded and unselectable.

The user should also be able to switch months to reserve a room for instance in the next month, especially if the current date is toward the end of the month. Standard convention is to put arrows in the month title bar that link to the next and previous months. The system should not lose what the user has selected in one month when the user switches to the next. For instance, if someone wants to have a meeting on either October 31st or November 1st, the system should remember that the user selected October 31st after the user has switched to November, and October 31st should still be highlighted if the user switches back to October again. This could potentially also be confusing; it is possible that the user might believe that switching the month has cleared all previously selected dates. Therefore some sort of notification that there are dates selected on other months may be necessary.

The user can also choose to reserve a room for one or multiple days for the entire semester, which will be separate from the calendar because going through the calendar for the entire quarter would be very tedious. The any day/all days selection also works for these as someone might want one day a week, either Tuesday or Wednesday, or they might want both Tuesday and Wednesday every week.

The user can also select what time they want to reserve the room for. There will be a multiple select box with hour and half hour times, plus the options of "Morning," "Afternoon," and "Evening" (not shown in sketch). The user should select the entire block of time that they want the room for. To make that easier to see, the times in the sketch should be more like "12:00 - 12:30" If the user wants more than half an hour they will need to select multiple times. As with the calendar, the time box should also have instructions since many people do not know how to use multiple select boxes, but these are not in the sketch. Half hour increments were chosen for the time box because things tend to be scheduled in hour or half-hour increments (e.g. classes are usually an hour or an hour and a half long). A multiple select box was used, rather than checkboxes, because it allows users to quickly select large blocks of time (i.e. several hours) without having to check off every half-hour increment.

Users might not care what time the meeting is, only what day, so they can check the "Any Time"

box instead of making selections in the time box. An alternative name for that might be something like “No time preference.” Technically the user could select all times in the time box, but a check mark is much easier. The time box will be disabled when this option is checked because particular times are irrelevant with this option and disabling the box lets the user know that they don’t need to bother with it.

Once the user has selected the date and time (as part of the date/time first process) they must select a room from a list of available rooms for the selected date(s) (Sketch 2). A list of rooms is displayed, ordered by date. Information about the room’s features (e.g. capacity) are given, along with a floorplan with the room highlighted. This way the user knows if the room does not have some feature that the user wants, for instance a white board, and lets the user know where the room is so they can find it later and so they know what room they are reserving if they have been there before (which will also tell them more about the room’s features).

There is also a multiple select box for times, much like the one in Sketch 1. The difference in this one is that it only displays times that are within the blocks of time the user selected on the previous page. For instance, the room may be available from 10am to 5pm, but if the user said they only wanted the room between 12:30 and 2pm then there will only be times from 12:30 to 2pm in the box. The user selects the block(s) of times they want for a particular room and hits the submit button under that room.

To save steps, the select box in Sketch 1 could be eliminated and all times could be displayed in the ones in Sketch 2. However, this means that the rooms displayed will be all rooms available at any time on that day, and if the user wanted the room for a popular time of day when there was only one room available but there were ten rooms available throughout the day the user would have to wade through a lot of rooms to find the one that would work. I believe that selecting times twice is more convenient overall.

If no rooms are available for the days and times selected the user is informed that there are no rooms and asked to go back and pick new days and/or times (no sketch available).

After selecting a room (Sketch 2), the user is taken to a page where the information about the room is displayed with links to edit that information and a form asking for information about the event (Sketch 3). The event name from this page will be displayed on a digital display next to the door during the event (Sketch 9) and will be shown on the “Show Events” page (Sketch 8). Edit links take the user to previous pages.

Information about the room is displayed here as a confirmation, since this is the last page the user will see before the room is reserved. The additional information about the event will not be confirmed. I am assuming that this information is not very important and should not need confirmation, so by combining this form with a confirmation for the room details saves steps for the user. If this assumption is incorrect this form should be separated and the confirmation for room details and for the information in this form should come on the next page.

The form shown in the sketch is probably not complete. I do not know what information the TSRB has to have about a meeting to schedule it, for instance if they have to know if food will

be served. There may also need to be some sort of confirmation process that this particular user has permission to reserve this room and perhaps a log in or password so the user can come back and change the event later if it is cancelled, postponed, needs a bigger room, etc.

Reserving By Room

The room the meeting is held in may be more important to the user than exactly what time or day. For instance, if meetings are regularly held in a particular room and an additional meeting needs to be held one week people may want to meet in the same room because they are used to it. Sketch 4 shows selection by room. The user is shown a map from which they can select a meeting room by clicking on it. Meeting rooms will be separated from non-room space on the map by shading so the user can clearly see what is available. There will be a map for the ground floor and for any other floors that have meeting rooms that can be reserved. Only one room can be selected from the map to simplify the following pages.

There will be pop-up divs that will appear when the user hovers their mouse over a room. These will display information about the room like whether it has a projector, room capacity, etc. This information is shown because a user may be interested in a particular room because they believe it has a certain feature; these pop-up displays will tell the user if the room does in fact have that feature. Since the user may not have javascript enabled this information will also be presented on the page that comes up after the user clicks on the room. It is displayed on this page so the user can click on a room that will work for them the first time without going to the next page and finding out it does not, then having to come back.

After the user has selected a room they are taken to a page that lets them pick the day they want the room (Sketch 5a). Unlike the calendar for the Date Selection process (Sketch 1), this calendar only lets the user select one date and shows the times the room is available directly on the calendar. Dates when the room is not available are shaded and cannot be selected. Times are displayed directly on the calendar to help the user choose a day. They cannot be edited from the calendar page because they will vary by day and putting a selection box in each day is messy and difficult to look at. Times and days are displayed as a calendar to help the user understand which day they are reserving with less confusion over day of the week, how far away that is, etc.

Once the user has clicked on a day they are taken to another page where they can select times. The times are selected in the same way that they are selected in Sketch 2, described above. After they have selected a time and submitted the form they are taken to a page like in Sketch 3 where the confirm room details and describe the event.

Reserving By Amenities

A user may also choose to select a room by the amenities of the room (Sketch 6), for instance if their meeting required large tables they could choose to look only at rooms that had them. The user can pick any number of features through a list of checkboxes. Checkboxes are used instead of a multiple select list here because it is easier to see all options at once and there is no need to select a block of consecutive items because they are unrelated. The list in the sketch is far from exhaustive; an audit of the rooms that can be reserved and some user studies to figure out what

features they find worth selecting by (e.g. would anyone care if the room had windows?) would be necessary to create a complete list. The user can also select ranges of available room capacities from a select menu. Again, this listing is neither complete nor accurate.

Once the user has selected the various amenities they want they are taken to a list of rooms that have all of those features (Sketch 7). They are given a complete list of features for each room (i.e. including other features that they did not select) and a small map like in Sketch 2. Rooms are displayed in a list, not in a map like in Sketch 4, because the user will be more interested in the amenities of the room than in the particular room or the location; however, the map is still available because it may help the user remember that they have been there before and they know what that room is like and it can help them find the room later.

Since the list is similar to Sketch 2, the user clicks on the Reserve button to go on with reserving that room. After the user has selected the room on this page all following pages are similar to the “By Room” process described above.

Event Displays

There are two event displays, one on the website (Sketch 8) and one near the door during the event (Sketch 9). The event display on the website serves several functions: it allows the TSRB caretakers (building administrators, janitorial staff, etc.) to see upcoming events and plan accordingly, it allows people to see what is going on in the facility, and it allows people to edit the events that they have created. The events will be shown on a calendar (Sketch 8a). The event name will be displayed on the day of the event, and if space permits the time and room number will be there also for easy reference.

The event names are links that will take the person viewing the events to a new page with details about that event (Sketch 8b). There may be more details that exist in this sketch; they will come from the form on Sketch 3. There are two versions of the event details page, one for the general public and one for a person who is able to edit the event. If a person is not logged in they can log in through the “Log in to edit event” link. I have not created a log in page. If they are logged in and are able to edit the event then “Edit” links appear next to each item as well as another link that allows them to cancel the event. Edit links take the user to forms like the ones in the various reservation processes—a calendar for the date, map for the room number, select boxes for the time, and text boxes for the other items. If the user clicks the “Cancel Event” link they should be taken to a page that asks them if they are really really sure before the event is cancelled because it is easy to accidentally click a link.

There will also be a digital display next to the door of the room for the duration of the event (Sketch 9). The display will show the name of the event and the time it will run for. Since the display is digital and the reservation website is also digital the display can be updated automatically without the people working in the building having to intervene and program it or post a sign. This reduces errors and tedious work.

TS RB Room Reservations

(Tab navigation)

Reserve

By Date

By Room

By Amenities

Show Events

Select Date and Time

(clickable calendar)

| S | M | T | W | Th | F | S |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

(days before current date shaded, not clickable)

Any Day

All days

(radio buttons)

Switch these

Reserve for

Mon
(check boxes)

Tues

Wed

Thurs

Fri

Semester:

Time

Any Time

(multiple select box)

| | |
|-------|-------------------------------------|
| 12:00 | <input type="checkbox"/> |
| 12:30 | <input type="checkbox"/> |
| 1:00 | <input checked="" type="checkbox"/> |
| 1:30 | <input type="checkbox"/> |
| 2:00 | <input type="checkbox"/> |

(disables time box when checked)

(can select multiple times)

Find Available Rooms →

(submits + goes to next page)

Sketch -

P6

TSRB Room Reservations

Reserve

By Date

By Room

By Amenities

Show Events

Rooms Available

October 27

Room Name / Number

Times:

| | |
|---------------|-------------------------------------|
| 12:30 - 1:00 | <input checked="" type="checkbox"/> |
| 1:00 - 1:30 | <input checked="" type="checkbox"/> |
| 1:30 - 2:00 | <input type="checkbox"/> |
| (Blank Space) | <input type="checkbox"/> |
| 3:00 - 3:30 | <input checked="" type="checkbox"/> |

Shows times room
is available
within times
user selected

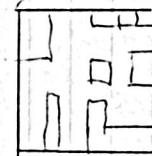
Reserve

Amenities:

white board

Projector

Seats 200



click to Enlarge

Map with
room highlighted

Room Name / Number

(Etc.)

October 28

Room Name / Number

(etc.)

TSRB Room Reservations

Reserve

By Date

By Room

By Amenity

Show Events

Reserving

Room Number

Time Edit

Date Edit

For Event

Event Name:

Contact Person:

Email:

link to detail
page about room

Edit → link to pick new room

} may need
other questions

Sketch 3
RG.

TSRB Room Reservations

By Date

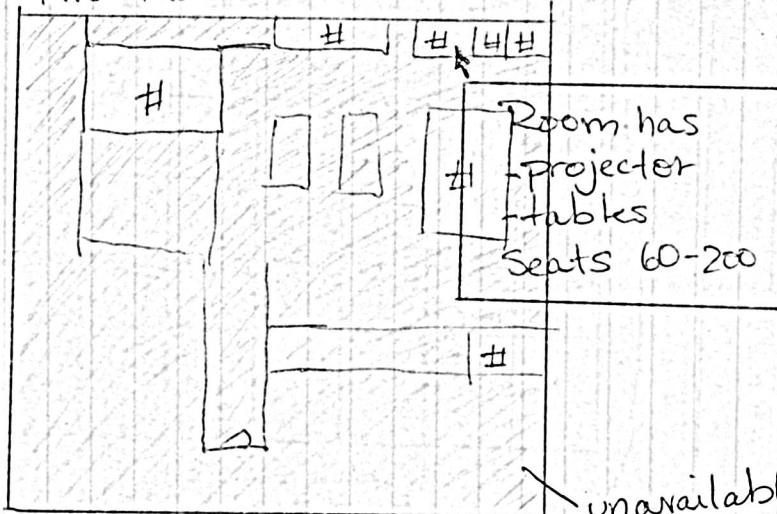
By Room

By Amenity

Show Events

Click on a Room

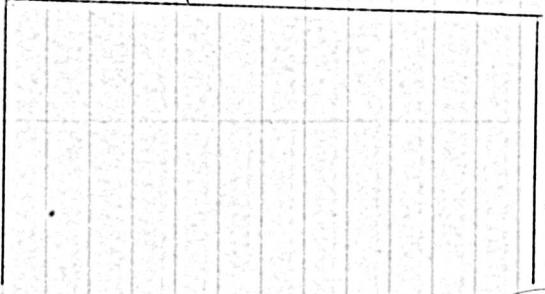
First Floor



mouseover popup
with information
about the room

unavailable areas shaded

Second Floor



Slots 4

PG

TSRB Room Reservations

- [By Date](#)
- [By Room](#)
- [By Amenity](#)
- [Show Events](#)

Choose a Day

| October | | | | | | |
|---------|----|----|----|----|----|----|
| S | M | T | W | T | F | S |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

10:00 - 12:00
1:30 - 7:00

9:00 - 11:00
2:00 - 4:00

unavailable
days
shaded

user clicks,
goes to next page

(5a)

Choose a Time

| | |
|---------------|-------------------------------------|
| 9:00 - 9:30 | <input checked="" type="checkbox"/> |
| 9:30 - 10:00 | <input type="checkbox"/> |
| 10:00 - 10:30 | <input type="checkbox"/> |
| 10:30 - 11:00 | <input type="checkbox"/> |
| (Blank Space) | |
| 2:00 - 2:30 | <input type="checkbox"/> |
| 2:30 - 3:00 | <input type="checkbox"/> |
| 3:00 - 3:30 | <input type="checkbox"/> |

multiple
select
box

Reserve Time

button

(5b)

TSRB Room Reservations

By Date

By Room

By Amenities

Show Events

The room must have:

- Projector
- Large tables
- White board

check
boxes

... etc.

Capacity:

| | |
|----------------|-------------------------------------|
| 10 - 20 people | <input checked="" type="checkbox"/> |
| 20 - 50 | <input type="checkbox"/> |
| 50 - 100 | <input type="checkbox"/> |
| : | <input type="checkbox"/> |

select
menu

Find Room

button

TSRB Room Reservations

- By Date
- By Room
- By Amenities
- Show Events

Pick a Room

Room Name/Number

Amenities:

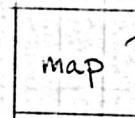
Tables

Projector

Reserve

Room Name/Number

etc.



Click to Enlarge

map with
room highlighted

Sketch 7
Pg

TSRB Room Reservation

By Date

By Room

By Amenity

Show Events

TSRB Events

| October | | | | | | |
|---------|---------|----|---------|----|----------|----|
| 1 | Event 2 | 3 | Event 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | Event 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

link
to info
page

good

Event Name Edit

October 20 Edit

5:00 - 7:00 TSRB RM# Edit

Contact Person Edit

Log in to edit event

or

Cancel Event

if not logged in

appear when
logged in +
allowed to edit

⑧a

⑧b

Pg

Sketch 8

Sketch 9

PG

