User Manual

Search

When the app is first opened, the first menu that appears is the Search/Filter Spaces Menu. From this menu, you can select the number of people in your study group, the date and time of the meeting, as well as other preferences for study spaces. You can also limit the results to certain areas such as Engineering, Wharton, or Library. After selecting the search criteria, click on “Search” at the bottom to retrieve a list of eligible study spaces.

Instead of clicking search, you can also press the “Find Now!” button. This will look for the nearest study space that is available and bring up its detail page (Figure 3).

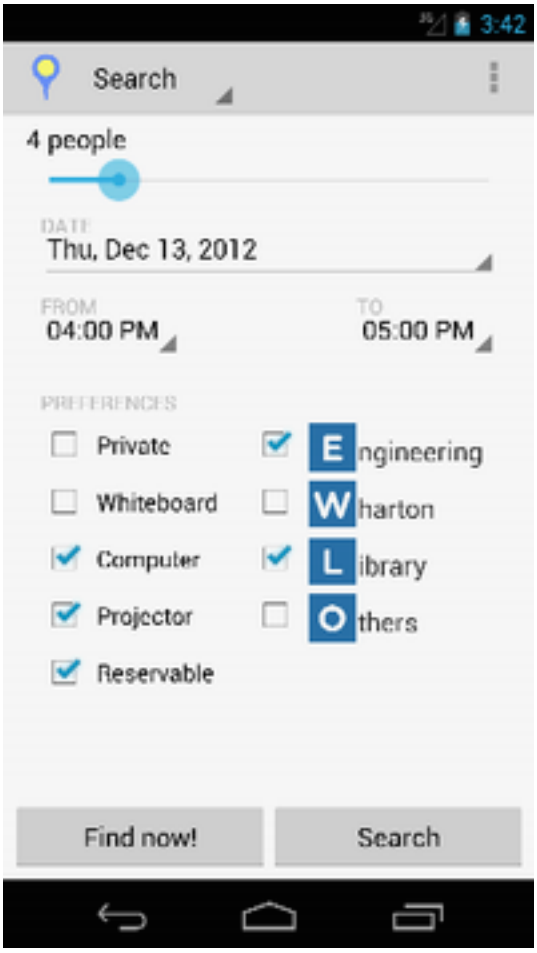

Figure 1: Search/Filter Spaces Menu

Search Results: List View

After clicking on “Search” from the previous screen, all the matching search results appear in this screen. If there is a location service enabled (GPS or wifi location), the closest study spaces are shown first. You can further filter these results by using the search textbox above. If you click on a study space, a new screen containing all the details of the study space is shown (Figure 3). Long clicking on a study space will allow you to reserve or share the study space without viewing the details of the study space. There is also a “Map” button which you can click on to see the locations of all matching study spaces (Figure 5).

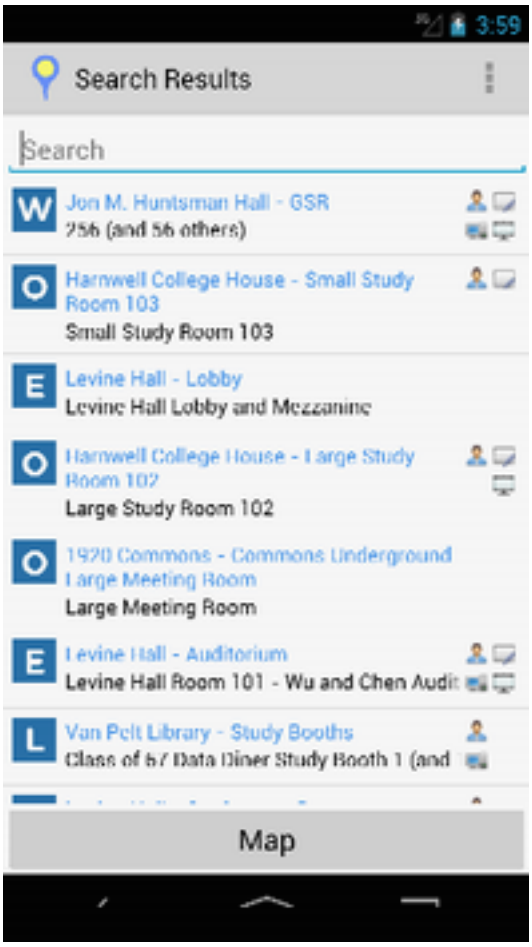

Figure 2: Search Results: List View

Search Results Map View

The map can be used to see where the study spaces are around campus.
Since one building can contain multiple study spaces, clicking on the pin of a building will bring up a dialog listing all study spaces in that building.
Clicking on an item in the dialog will bring you to the page displaying the details of the study space.

Figure 5: Search Results: Map View

Building Details Page

The details about the study space, including name/room number and the capacities, are shown on this screen. Within this screen, it's possible to share the study space details with friends by click the share button or reserve online (if reservable). Clicking on 'Map' shows where the study space is located and the user's current location.
The clickable star icon is used to set or reset the study space as a favorite space.

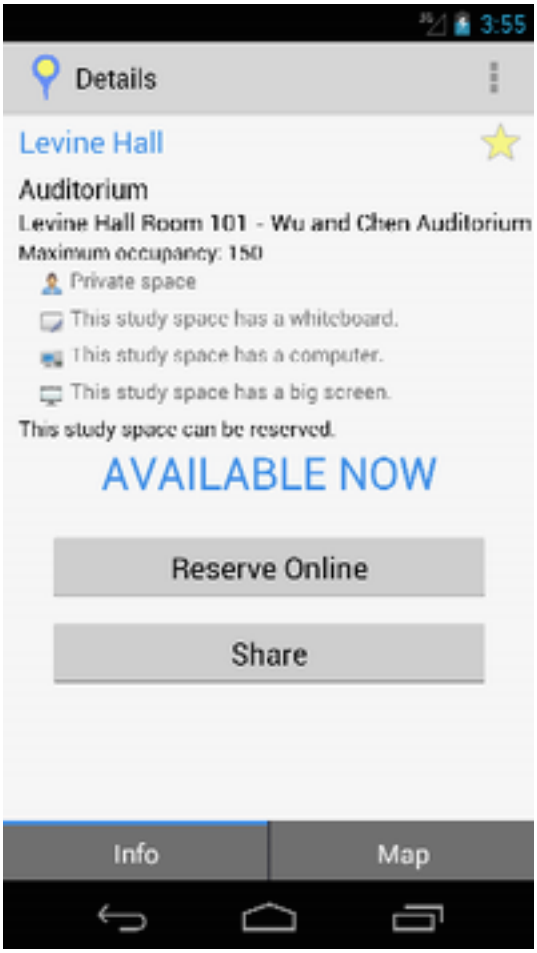

Figure 3: Study Space Details

Favorites

From the main search menu, you can see your favorites by clicking on “Search” on the top and then clicking on “Favorites” in the dropdown. This shows a list of all your favorite study spaces. From here, you can click on a study space to get it’s details or click on the “Map” button to show all the favorite study spaces on the map.

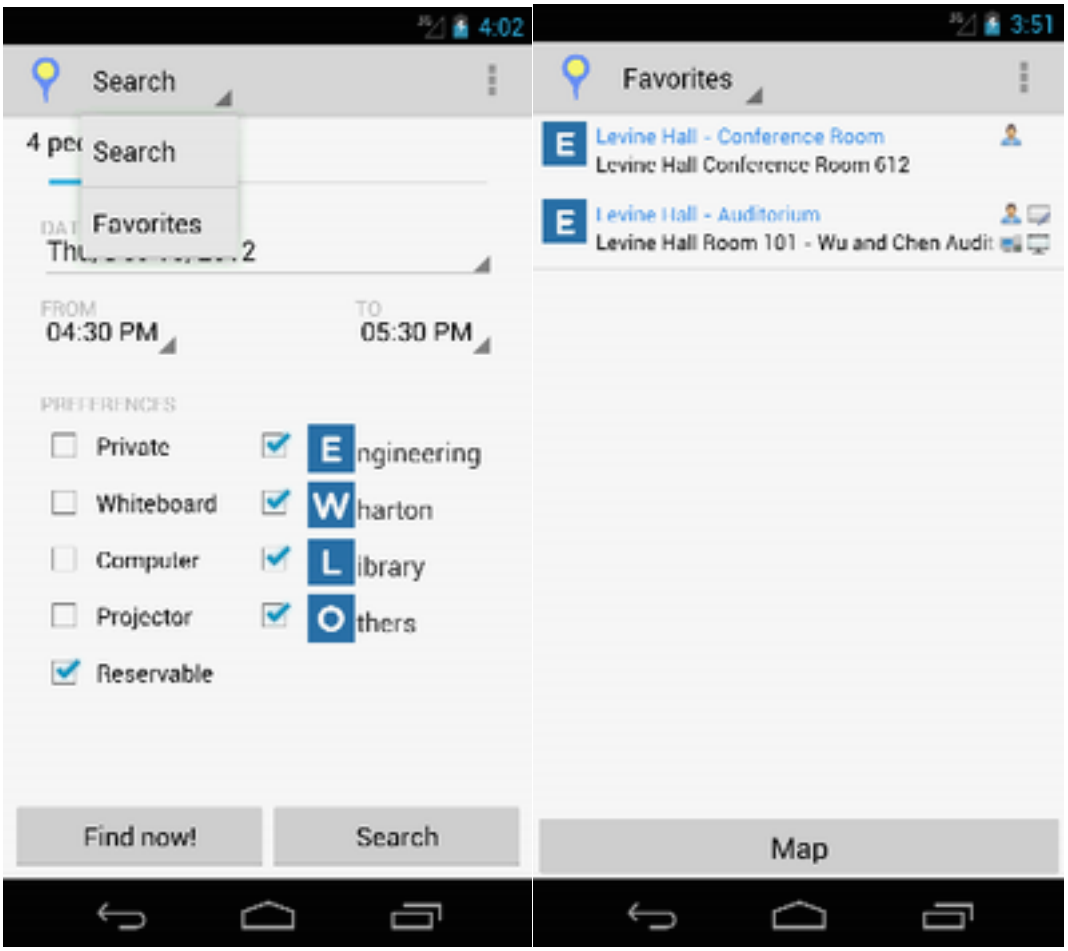

Figure 4: Search and Favorites drop down (left), Favorites List (right)

Help Screen

Anytime the user may need some assistance, they can hit the menu button and launch the help screen, which provides details on how to use the app.

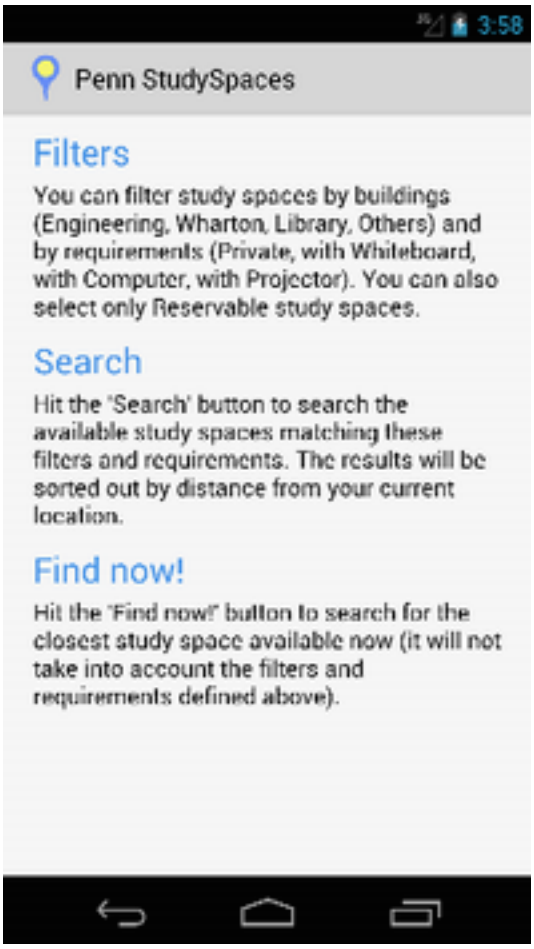

Figure 6: Help Screen

Technical Documentation

Note: For backwards compatibility with Gingerbread, an external library called ActionBarSherlock was used. This is included in the source folder. However, it's an android library project and must be imported into Eclipse. Otherwise, the project won't build. Visit this page for more information: http://actionbarsherlock.com/usage.html

APIAccessor.java

This is the main Application class that builds all the study spaces and uses the JSON library (http://www.json.org/java/) to pull data from the Penn StudySpaces website (http://pennstudyspaces.com/).

The Application class maintains global application state and builds the list of study spaces when the app is first launched. This list of study spaces can be retrieved from any activity without having to build the spaces each time. The list is only rebuilt if the last access was over 5 minutes ago.

*The StudySpace class represents all the information related to a single study space.

Figure 1: Search/Filter Spaces Menu & Figure 4: Favorites

There are 2 fragments and an activity that correspond to this screen. The activity is MainActivity. This is the activity that is launched when the app is first opened. The only purpose of this activity is to contain two fragments (SearchFragment and FavoritesFragment) and select between the two using an action bar dropdown menu. Basic navigation testing was done using MainActivityTest.

SearchFragment: This fragment handles the search options (using the SearchOptions class) set by the user and passes it onto StudySpaceListActivity. The "Find Now!" button ignores the search options and finds the closest study spaces at the current time. If there's no location service, the results are random. This was tested with FindNowTest.

FavoritesFragment: This list fragment simply displays a list of study spaces that are favorites (stored using SharedPreferences and utilizes the Preferences class). The list behaves very similar to the list in StudySpaceListActivity.

Figure 2: Search Results

The activity corresponding to Search Results is StudySpaceListActivity. This list activity uses the search options that were passed from SearchFragment and creates a list of all the corresponding study spaces using StudySpaceListAdapter. The list is sorted by distance StudySpaceListActivity was previously tested with StudySpaceListActivityTest. StudySpaceDistanceTest was used to test the StudySpaceDistanceComparator method in StudySpaceListAdapter. Long clicking a study space in the list was tested using LongClickToReserveTest.

Figure 3: Study Space Details

The StudySpaceDetails activity is used to display information about a specific study space and find it on a map. StudySpaceDetails uses the fragments, TabDetails and CustomMap. TabDetails displays the details of the study space as well as buttons for reserving (if applicable), adding to calendar, and sharing. TabDetails also has a star checkbox that handles adding study spaces to favorites. The test class for StudySpaceDetails is StudySpaceDetailsTest and there's a separate ReservationNotifierTest for testing the Reserve functionality.

CustomMap extends MapActivity and requires android-support-v4.jar to be in the build path and in the "lib" folder. See more details of CustomMap below.

Figure 5: Study Spaces Map.

All features involving map are implemented by CustomMap activity. The map can be used to map a single study space or a list of study spaces (from StudySpaceListActivity or FavoritesFragment).
The building details dialog is also created inside CustomMap.

There test classes for CustomMap include:
- MappingSearchResultsTest
- MappingFavoritesTest
- MapPinDetailsDialogTest

Figure 6: Help Screen

All features involving the help screen is in the Help.java (we suggest moving it to HelpActivity.java for consistency).

Utilities package

This package pretty much consists of anything that is not an UI operation and can be used from any activity. For example, send a reservation using the ReservationNotifier class, which takes a study space and gives an intent that can be used for display, etc.