

DoubleMap

Cognitive Walkthrough Report

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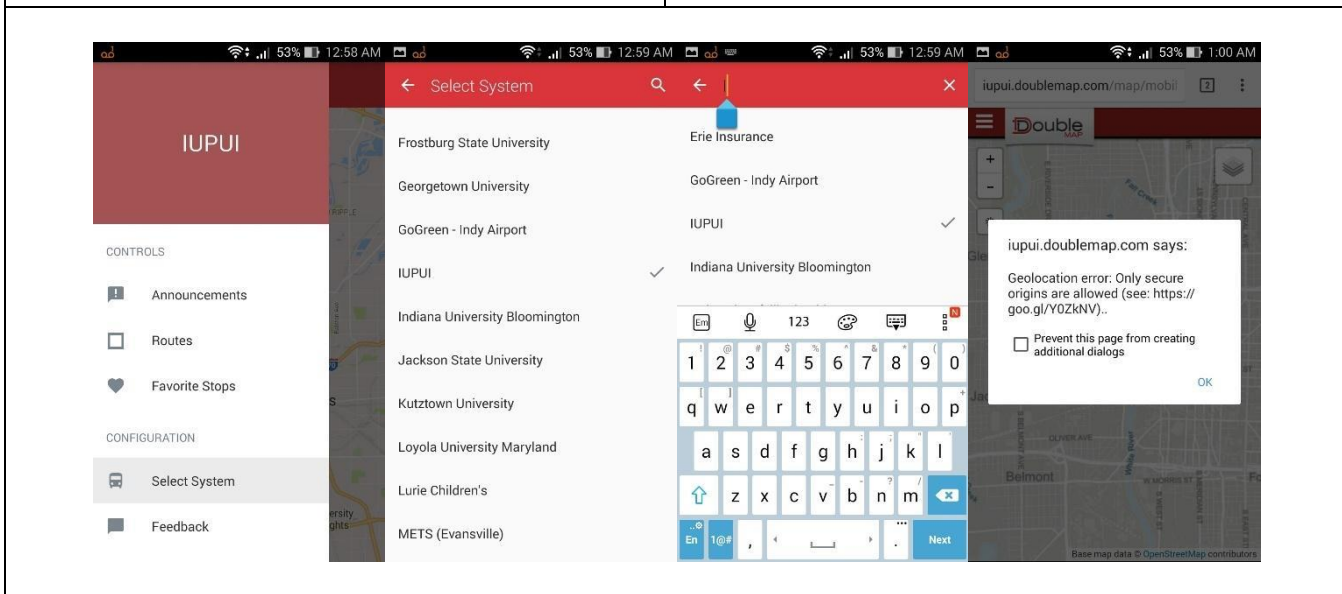
Abstract

We evaluated DoubleMap– android based and web based for learnability by exploration. The focus of cognitive walkthrough is on understanding the DoubleMap Apps’s learnability for new or infrequent users. It’s a task specific approach to evaluate the usability of the app. We performed a set of tasks and tried to answer few questions from the users’ perspective. The idea is that if given a choice – most users prefer to do things to learn a product rather than to read a manual or follow a set of instructions.

Tasks:

1. Selecting your campus and route to your desired location.

Actions	Usability Problems
<ol style="list-style-type: none">1. Open DoubleMap app.2. Turn on GPS detection.3. Click hamburger menu on top left.4. Click ‘Select System’.5. Enter desired system (campus) name, for example ‘IUPUI’.6. Select the one from the list.7. Click hamburger menu.8. Click “Routes”.9. Enable the toggle button for your route color.	<ol style="list-style-type: none">1. Textbox for searching system(campus) is case sensitive. For example, IUPUI and Iupui aren’t the same.2. Abbreviations for system selection won’t be recognized. For example, IUB for Indiana University Bloomington.3. GPS detection on browser based app doesn’t work.



Recommendation:

1. Search box for system selection shouldn’t be case sensitive.
2. Geo Location on browser based app need to be fixed.

2. Adding favorite stops.

Actions Method 1:

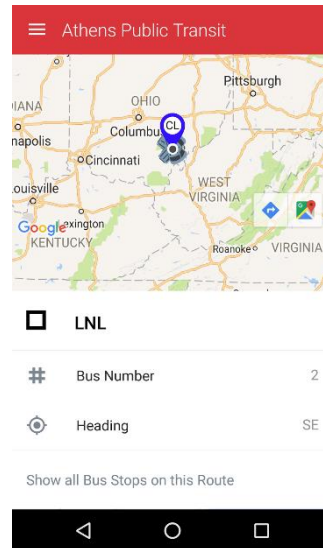
1. User selects his/her route by clicking the icon on the map for his respective route.
2. The User then clicks on 'Show all Bus Stops on this Route'.
3. A new window draws up which displays the respective Stops. The User selects his/her appropriate stop.
4. Another window draws above it and then the user selects a 'heart' icon and thus adds that stop as his/her favorite.

Actions Method 2:

1. Select the respective stop marker (black dot) on the map.
2. Stop information pops-up, user can mark the stop as favorite.

Usability Problem:

1. The 'Show all Bus Stops on this Route' link does not afford to be clicked. It gives the impression of a plain text or secondary text content. It should be styled differently to signify a button, which affords to be clicked.



Recommendation:

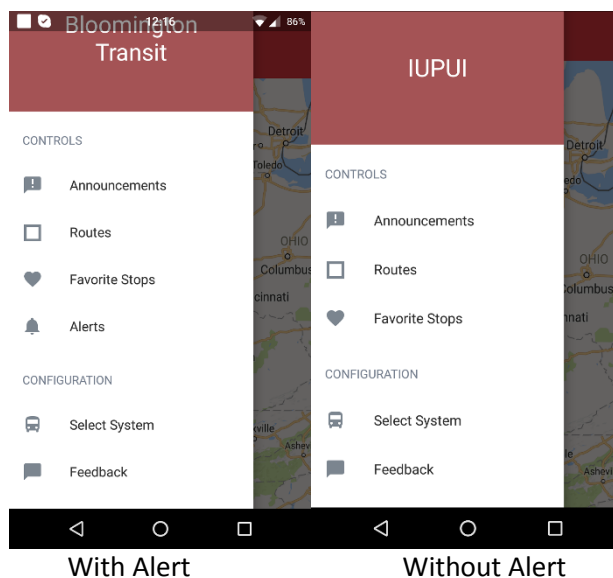
3. Learning the status of the Bus.

Actions:

1. User clicks on the hamburger menu icon
2. Under CONTROLS heading in the menu, user clicks on the Routes menu item
3. Selects a route from the list
4. Selects the appropriate stop
5. The Bus arrivals timings are found, indicating its status as how long will the bus take to reach the stop

Usability Problem:

1. For different transit systems and campuses, the navigation menu items are inconsistent. For example, for the Bloomington Transit System, we could find an extra Alerts menu item which is not present in the IUPUI system.



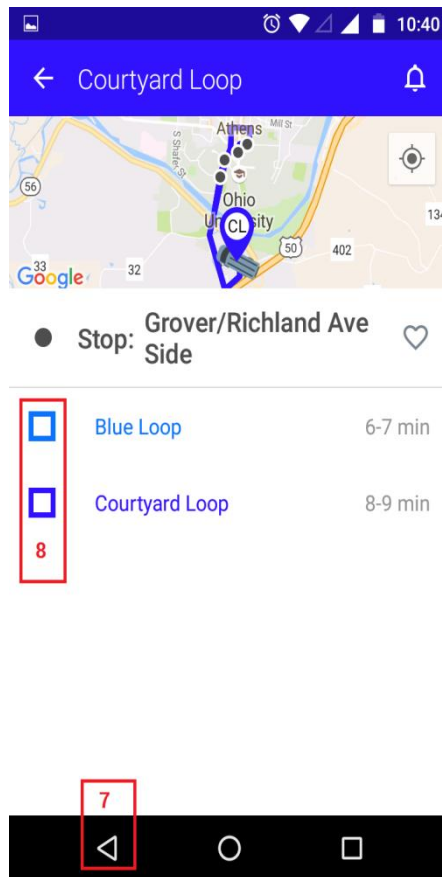
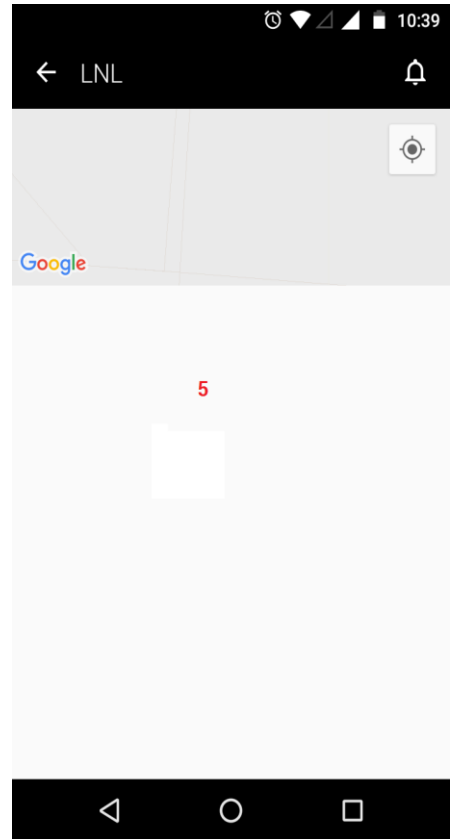
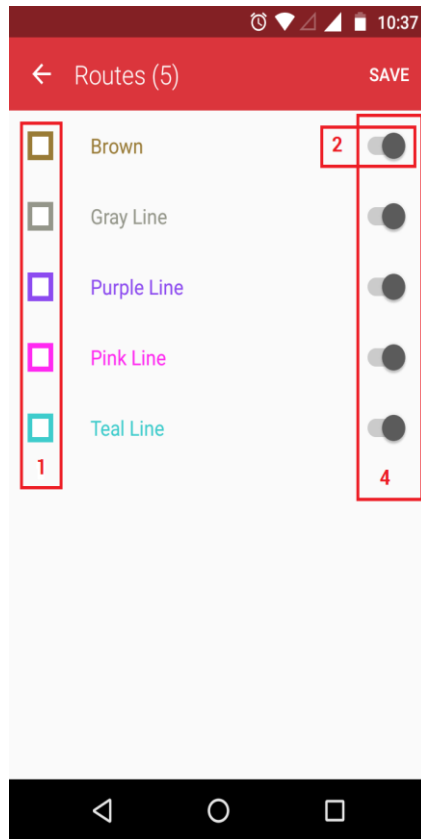
4. Changing campus/routes.

Actions:

1. User clicks navigation drawer(hamburger menu)
2. User clicks on Routes option
3. User is redirected to new screen which has list of routes available on the selected system.
4. User clicks on a particular route the user is redirected to another screen where given list of stops on that particular route.
5. User clicks on particular bus stop then a small pop up window comes up overlapping stop list, which show stop details.

Usability Problem:

1. Screen shows the available routes, icon on the left side of each listed route is misleading. The square icon looks like a checkbox with different color, when user tries to click on it, checkbox doesn't get selected (because it isn't one) and user gets redirected to the route screen.
2. 1. After clicking on the toggle button, it doesn't provide any idea if the route is selected or deselected (turned on to show or not)
2. Also, there's inconsistency in UI of toggle buttons for web application and android application.
3. When changing to different travel system, by default all routes are shown, if the number of routes are larger (IUB campus), then it might confuse new user.
4. By default, all routes are selected, and if user wants to select only 1 route among 5 different routes, then user has to deselect 4 other routes separately by clicking 4 toggle buttons.
5. After user selects a particular route, for few routes which are possibly not active, new screen shows nothing on maps or below map, with no particular error message. (for eg: LNL route in Athens Public Transit system)
6. After step 5, when user clicks back button, what user expects is stop details window will go down and he/she will be able to see stop list again. However, back button kills the present screen and user is back to route list activity.
7. No signifier which tells user that with scroll down gesture stop details pop up will go down. Only by accident user can find this feature is present.
8. On stop details, again the icon looks like checkbox.



- Recommendation: 1. If possible, remove/change the icon, if not then at least fill the square so it won't look like a checkbox.
2. Add colors to toggle button, use the default color of android OS (as android users are already familiar with native toggle buttons, it'd be less stress on user's processing memory).
 4. Deselect all button should be added on the routes screen, so that user can deselect all the routes at once and only choose the one which he/she wants.
 5. Show specific error message if routes are not active which should also tell user what should be user's next step.
 6. Back button should not kill the present activity (screen) it should instead pull down the stop details pop up.
 7. Put a signifier which will tell the user that gesture feature is available.