Ubiquitous and Mobile Computing
CS 4518: *BathroomBrowser*

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Nature Calls...

- Everyone uses the restroom several times a day
- People require different needs
  - Handicap accessibility
    - 13.1% of adults have mobility issues
  - Specific gender
  - Changing tables
    - 11.4% of adults are parents to infants
  - Feminine hygiene products
- Locations sometimes hard to find
BathroomBrowser

- Find restrooms on campus by specific categories

- Categories:
  - Gender
  - Accessibility
  - Facilities layout
  - Services provided
  - Hours of operation
BathroomBrowser

- Users can select settings to filter search
- View locations on a map or in a list
BathroomBrowser

- Selecting a bathroom from list view shows more information about bathroom
Demo

https://www.youtube.com/watch?v=WHUhQGFdQEw&feature=youtu.be
Implementation

- Activity screens
  - Splash screen
  - List view
  - Map view
  - Settings screen
  - Bathroom screen
- List and map populated by ListAdapter object
- SQLite database stores bathroom information
Results and User Evaluation

- 109 on campus bathrooms catalogued
- Simple UI implementation
- No major issues with location detection or database queries
- Overall positive testing feedback
  - “Didn’t know bathrooms existed [here]”
  - “intuitive design”
  - “would use if expanded”
  - “wish map markers brought up bathroom details”
Potential Future Plans

- Add pictures of bathrooms
- Finish indexing remaining on campus bathrooms
- Index off campus locations
- Allow users to rate quality of bathrooms
- Improve UI design
Questions?
References

Disability Status and Types - Mobility Disability 2014 CDC Data. 1 June 2016. Raw data. United States & Territories. 
https://dhds.cdc.gov/dataviews/report?reportId=18&viewId=1522&geoReportId=3201&geoId=1&geoSubsetId=&z=1