

Graphical User Interface for Floor Plan Visualization at Allegheny College

CeCe Colón

Motivation

Solution

Related Work

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Future Work

# Graphical User Interface for Floor Plan Visualization at Allegheny College

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November 20, 2017



Current Availability

Graphical User Interface for Floor Plan Visualization at Allegheny College

Motivation

Solution

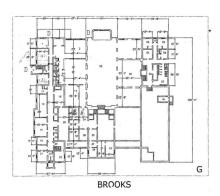
Related Worl

Approach

Why SVC

Evaluatio

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Graphical User Interface for Floor Plan Visualization at Allegheny College

Motivation

Solution

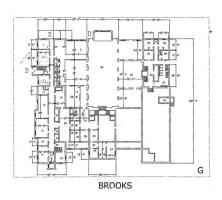
Related Worl

Why SVG

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- Current Availability
- Data and information Visualization





Graphical User Interface for Floor Plan Visualization at Allegheny College

Motivation

Solution

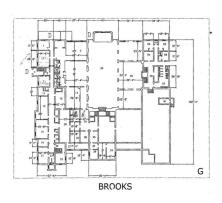
Related Work

Why SVG

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- Current Availability
- Data and information Visualization
- Branding





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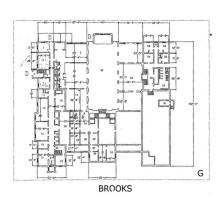
Motivation

Solution

Related Work

Why SVG

- Current Availability
- Data and information Visualization
- Branding
  - New Applications





Graphical User Interface for Floor Plan Visualization at Allegheny College

Motivation

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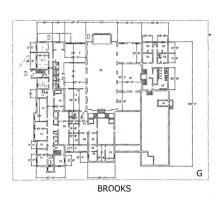
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Why SVG

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- Current Availability
- Data and information Visualization
- Branding
  - New Applications
  - Retention





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Motivation

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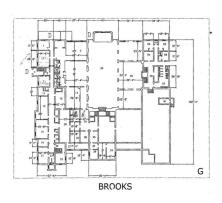
Approach

Why SVG

Evaluation

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- Current Availability
- Data and information Visualization
- Branding
  - New Applications
  - Retention
- Rooming Information





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Graphical User Interface

Solution

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Why SVG

Evaluatio

Othe



Graphical User Interface for Floor Plan Visualization at Allegheny College

Solution

- Graphical User Interface
- Interactivity



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Solution

Related Work

Why SVC

Why SVG

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- Graphical User Interface
- Interactivity
- SVG 2D floor plans



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Solution

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Why SVC

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- Graphical User Interface
- Interactivity
- SVG 2D floor plans
- Goals



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Why SVG

- Graphical User Interface
- Interactivity
- SVG 2D floor plans
- Goals
  - CLARITY and VISIBILITY



Graphical User Interface for Floor Plan Visualization at Allegheny College

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Solution

Related Work

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Why SVG

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- Graphical User Interface
- Interactivity
- SVG 2D floor plans
- Goals
  - CLARITY and VISIBILITY
  - Display relevant information



Graphical User Interface for Floor Plan Visualization at Allegheny College

Solution

Related Work

related Work

Why SVC

Why SVG

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- Graphical User Interface
- Interactivity
- SVG 2D floor plans
- Goals
  - CLARITY and VISIBILITY
  - Display relevant information
  - Useful to different offices



• Paid Programs

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Motivation

Solution

Related Work

Approach

Why SVG

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Paid Programs

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Campus Bird http:// map.allegheny.edu/

Solution

Related Work

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Why SVC

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Paid Programs

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Campus Bird http:// map.allegheny.edu/

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Related Work

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Why SVG

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- Paid Programs
  - Campus Bird http:// map.allegheny.edu/
  - nuCloud
- SVG country maps





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nuCloud

SVG country maps

Paid Programs

Campus Bird http:// map.allegheny.edu/

 University Created Floor **Plans** 





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Campus Bird http://

nuCloud

SVG country maps

 University Created Floor **Plans** 

Paid Programs

map.allegheny.edu/

Case Western





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Related Work

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M/L., CM/C

Why SVG

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- Paid Programs
  - Campus Bird http:// map.allegheny.edu/
  - nuCloud
- SVG country maps
- University Created Floor Plans
  - Case Western
  - Rochester Institute of Technology





Graphical User Interface for Floor Plan Visualization at Allegheny College

Approach

Convert current Floorplans to SVG graphics



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Approach

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Why SVG

Evaluatio

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- Convert current Floorplans to SVG graphics
  - Adobe Illustrator



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Approach

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- Convert current Floorplans to SVG graphics
  - Adobe Illustrator
  - InkScape



Graphical User Interface for Floor Plan Visualization at Allegheny College

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Approach

Why SVG

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- Convert current Floorplans to SVG graphics
  - Adobe Illustrator
  - InkScape
- SVG code editing



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Approach

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- Convert current Floorplans to SVG graphics
  - Adobe Illustrator
  - InkScape
- SVG code editing
- Adding Interactivity



Graphical User Interface for Floor Plan Visualization at Allegheny College

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Approach

Why SVG

- Convert current Floorplans to SVG graphics
  - Adobe Illustrator
  - InkScape
- SVG code editing
- Adding Interactivity
  - JavaScript



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Salution

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Approach

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- Convert current Floorplans to SVG graphics
  - Adobe Illustrator
  - InkScape
- SVG code editing
- Adding Interactivity
  - JavaScript
  - HTML



Graphical User Interface for Floor Plan Visualization at Allegheny College

Approach

Convert current Floorplans to SVG graphics

- Adobe Illustrator
- InkScape
- SVG code editing
- Adding Interactivity
  - JavaScript
  - HTMI
- Displaying all information in a fluid way



Graphical User Interface for Floor Plan Visualization at Allegheny College



50x50 SVG



Bitmap scaled to 150x150

SVG scaled to 150x150





 XML-based vector graphic

Why SVG?



Graphical User Interface for Floor Plan Visualization at Allegheny College

Why SVG?

50x50 bitmap



Bitmap scaled to 150x150

50x50 SVG



SVG scaled to 150x150





- XMI -based vector graphic
  - Compatible with HTML, JavaScript (JQuery), and CSS



Graphical User Interface for Floor Plan Visualization at Allegheny College

Why SVG?

50x50 bitmap



Bitmap scaled to 150x150





50x50 SVG



- XMI -based vector graphic
  - Compatible with HTML, JavaScript (JQuery), and CSS
- Scripting interactivity



Graphical User Interface for Floor Plan Visualization at Allegheny College

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Solution

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Why SVG?

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Future Work

50x50 bitmap



Bitmap scaled to 150x150



50x50 SVG

SVG scaled to 150x150





- XML-based vector graphic
  - Compatible with HTML, JavaScript (JQuery), and CSS
- Scripting interactivity
- D3.js, Snap.js, Raphael.js



Graphical User Interface for Floor Plan Visualization at Allegheny College

Why SVG?

50x50 bitmap



Bitmap scaled to 150x150



50x50 SVG



- XMI -based vector graphic
  - Compatible with HTML, JavaScript (JQuery), and CSS
- Scripting interactivity
- D3.js, Snap.js, Raphael.js
- No resolution limits



Graphical User Interface for Floor Plan Visualization at Allegheny College

Solution

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Approach

Why SVG?

Strateg

Future Work

50x50 bitmap



Bitmap scaled to 150x150



50x50 SVG



SVG scaled to 150x150



- XML-based vector graphic
  - Compatible with HTML, JavaScript (JQuery), and CSS
- Scripting interactivity
- D3.js, Snap.js, Raphael.js
- No resolution limits
- Faster load times



### **Evaluation Strategy**

Graphical User Interface for Floor Plan Visualization at Allegheny College

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Manual Testing

Solution

Related Work

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Why SVG

Evaluation

Strategy

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Solution

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Why SVC

Evaluation

Strategy

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- Manual Testing
- System Usability Scale (SUS)



Graphical User Interface for Floor Plan Visualization at Allegheny College

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Why SVG

Evaluation Strategy

Othe

- Manual Testing
- System Usability Scale (SUS)
  - Standardized method of evaluation



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Solution

Related Work

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Evaluation

Strategy

- Manual Testing
- System Usability Scale (SUS)
  - Standardized method of evaluation
- Self Created Questionnaire



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Why SVG?

Strategy

- Manual Testing
- System Usability Scale (SUS)
  - Standardized method of evaluation
- Self Created Questionnaire
  - Specific feedback in context for Allegheny



#### Other Considerations

Graphical User Interface for Floor Plan Visualization at Allegheny College

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Solution

Approach

Why SVG

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Other

Future Wor

#### Institutional Review Board Form

- Focus Group and Surveys to determine included information
- Survey for post floor plan evaluations

Task	Begin Date	End Date
Chapter 1 and 2 final draft	20 Nov	12 Dec
Collecting original floor plans	12 Dec	20 Dec
Creating SVG images	20 Dec	15 Jan
Interactivity for SVG	15 Jan	15 Feb
Building Program Framework	15 Feb	15 March
Evaluation/Debugging	15 March	5 April
Final draft for edits	1 April	20 April
Edits	20 April	27 April
Final, bound copy submitted	27 April	1 May



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Pelletier Library

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Related Work

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Why SVG

Evaluation

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Pelletier LibraryStacks layout

Solution

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Why SVG

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Why SVG

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- Pelletier Library
  - Stacks layout
  - Study Rooms



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Solution

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Why SVG

Strategy

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- Pelletier Library
  - Stacks layout
  - Study Rooms
  - Public Computer Locations



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Solution

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Why SVG

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Othe

- Pelletier Library
  - Stacks layout
  - Study Rooms
  - Public Computer Locations
- Campus Programming Spaces



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- Pelletier Library
  - Stacks layout
  - Study Rooms
  - Public Computer Locations
- Campus Programming Spaces
  - Campus Center



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- Pelletier Library
  - Stacks layout
  - Study Rooms
  - Public Computer Locations
- Campus Programming Spaces
  - Campus Center
  - Shultz



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- Pelletier Library
  - Stacks layout
  - Study Rooms
  - Public Computer Locations
- Campus Programming Spaces
  - Campus Center
  - Shultz
  - Tippie