

Graphical User Interface for Floor Plan Visualization at Allegheny College

CeCe Colón

Motivation

Solution

Related Work

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Why SVG

Evaluation

Other

Graphical User Interface for Floor Plan Visualization at Allegheny College

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November 20, 2017



Graphical User Interface for Floor Plan Visualization at Allegheny College

Motivation

Solution

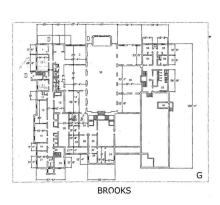
Related Worl

Approach

Why SVG

Evaluation

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Graphical User Interface for Floor Plan Visualization at Allegheny College

Motivation

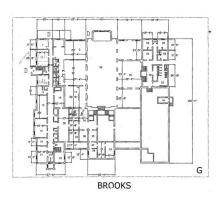
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Strategy

Current Availability

 Data and information Visualization





Graphical User Interface for Floor Plan Visualization at Allegheny College

Motivation

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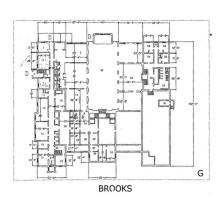
Related Work

Why SVG

Evaluation

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- Data and information Visualization
- Branding





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Motivation

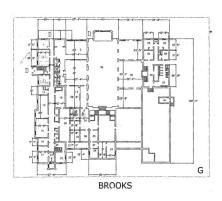
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Related Work

Why SVG

Evaluation Strategy

- Data and information Visualization
- Branding
 - New Applications





Graphical User Interface for Floor Plan Visualization at Allegheny College

Motivation

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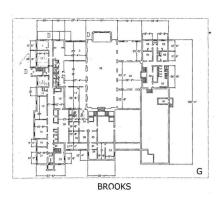
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Why SVG

Evaluation Strategy

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





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Motivation

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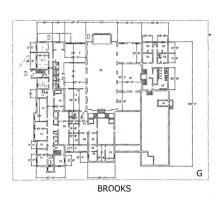
Solution

Related Work

Why SVG

Strategy

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





Graphical User Interface for Floor Plan Visualization at Allegheny College

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• Graphical User Interface

Solution

Related Work

Why SVC

Evaluatio

Other



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Solution

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Strategy

• Graphical User Interface

Interactivity



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Approach

Why SVG

Evaluation

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



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Graphical User Interface

- Interactivity
- SVG 2D floor plans
- Goals



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Evaluation Strategy

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



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Graphical User Interface

Interactivity

- SVG 2D floor plans
- Goals
 - CLARITY and VISIBILITY
 - Display relevant information



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Why SVG

Strategy

• 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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Evaluation

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

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

nuCloud

Paid Programs

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Evaluation Strategy

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nuCloud

SVG country maps





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





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Strategy

• Paid Programs

- Campus Bird http:// map.allegheny.edu/
- nuCloud
- SVG country maps
- University Created Floor Plans
 - Case Western





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

nuCloud

Paid Programs

SVG country maps

 University Created Floor Plans

Case Western

 Rochester Institute of Technology





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Convert current Floorplans to SVG graphics

Solution

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Strategy

Convert current Floorplans to SVG graphics

Adobe Illustrator



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Approach

Why SVG

Evaluation

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



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Approach

Why SVG

Strategy

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



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Approach

Why SVG

Evaluation Strategy

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



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Approach

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Strategy

Convert current Floorplans to SVG graphics

Adobe Illustrator

InkScape

SVG code editing

Adding Interactivity

JavaScript



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Approach

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Evaluatio Strategy

Convert current Floorplans to SVG graphics

Adobe Illustrator

InkScape

SVG code editing

Adding Interactivity

JavaScript

HTML



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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

Why SVG?

50x50 bitmap



Bitmap scaled to 150x150



50x50 SVG



SVG scaled to 150x150



 XML-based vector graphic



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Why SVG?

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Bitmap scaled to 150x150



SVG scaled to 150x150





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



Graphical User Interface for Floor Plan Visualization at Allegheny College

Why SVG?

Bitmap scaled to 150x150

50x50 bitmap



50x50 SVG



SVG scaled to 150x150



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



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Bitmap scaled to 150x150



SVG scaled to 150x150

50x50 SVG



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



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Solution

Related Work

Why SVG?

Evaluation Strategy 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



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
- 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

Other



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Evaluation

Strategy

- Manual Testing
- System Usability Scale (SUS)



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Evaluation Strategy Manual Testing

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



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Solution

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Why SVG?

Evaluation Strategy

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



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Why SVG

Evaluation Strategy

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- 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

Other

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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Evaluation

Other



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Pelletier LibraryStacks layout

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Evaluation Strategy



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 Pelletier Library Stacks layout

Study Rooms



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Why SVG

Evaluation

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



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Pelletier Library

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



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Approach

Why SVG

Evaluatio Strategy Pelletier Library

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



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Strategy

Pelletier Library

Stacks layout

Study Rooms

Public Computer Locations

Campus Programming Spaces

Campus Center

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Strategy

Pelletier Library

Stacks layout

Study Rooms

Public Computer Locations

Campus Programming Spaces

Campus Center

Shultz

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