

Making an Academic Poster

Jane Zhao

Digital Media Commons

Fondren Library

Objectives



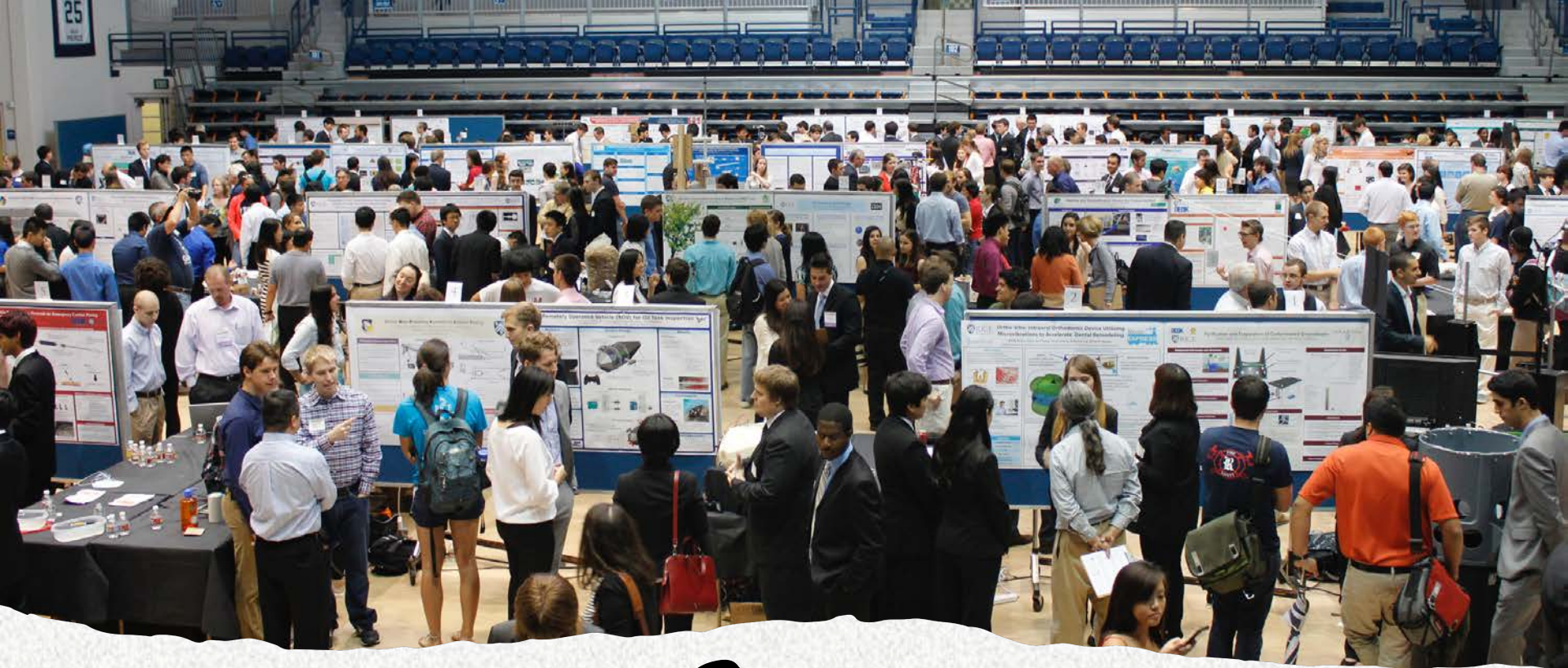
Why posters and how your posters will be judged?



How to make an effective poster?



Available poster templates and on-campus printing resources



Brown School of Engineering, Engineering Showcase & Poster Competition



Why posters?



Share scholarly work



Interact with colleagues and gather feedback

Market needs Virtual Fitting

Without physically trying on a garment

- Customers cannot decide the best size and color
- Customer return causes \$1Billion/ year loss in the U.S.
- Over 60% of online shoppers hesitate to buy clothes online

Solution: Real-time Garment Simulation

- Helps customers to visualize how garments look on them using 3D modeling
- Physical simulation is too slow
- Utilizes **offline physical simulation + machine learning** to extract a mathematical deformation rule
- Given a new body model, applies the deformation rule to simulate the garment in real time

Design Criteria

Criterion	Details	Results
Accuracy of simulation	Conforms to Physical Simulation	Position: 5.6mm Shape: 13.7mm
Authenticity of body model	Incorporate users' images	Kinect-supported
Speed of simulation	5-sec rendering	1.20 sec
Convenience	Automatic Process	Automatic Script
Scalability	Extendable to 10,000s of garments	T-shirt and dress

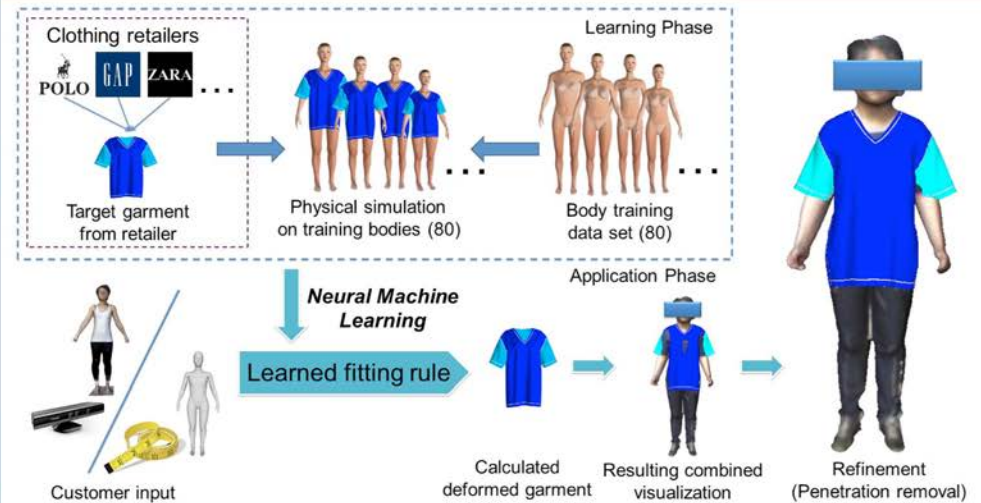
References

[1] P. Guan et al., "DRAPE: DRessing Any PErson," in ACM Trans. Graph. 31(4):35,2012.

Acknowledgement

We would like to thank IBM Flash System for funding our project, Dr. Gary Woods, Dr. Ron Goldman, Dr. Erzsébet Merényi, Dr. Devika Subramanian, Dr. Maria Oden, Carlos Amaro for all the support and advice.

Machine Learning achieves Real-time Garment Simulation



Accurate and Fast clothes fitting



Our System meets market needs

- Accurate and real-time simulation
- Applies to any given customer body model
- Supports any garment

Galen Schmidt
galenschmidt@ricealumni.net

Jeremy Hunt
jrhunt4@gmail.com

Spencer Kent
spencerjameskent@gmail.com

The Challenge

State-of-the-art radar systems will, in the future, rely on impulse-radiating devices to achieve the performance and low power necessary for autonomous navigation and advanced medical imaging.

Active research in this field has shown promising results but to date has not demonstrated an array-based system capable of full-3D imaging at real-time frame rates. Until now.

We have built a fully integrated, modular system to demonstrate this capability using low-cost commercial radar integrated circuits and otherwise completely custom hardware and software.

Design Criteria

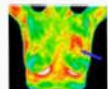
Design Objective	Criterion	Target
Long-Range	Detection Distance	4 m
	Range Resolution	2 cm
Accurate	Angular Resolution	1°
	Frame Rate	4 Hz
Fast	Physical Dimensions	60 cm x 25 cm x 25 cm
	Weight	10 kg
Low-power	Power Consumption	50 W

Applications



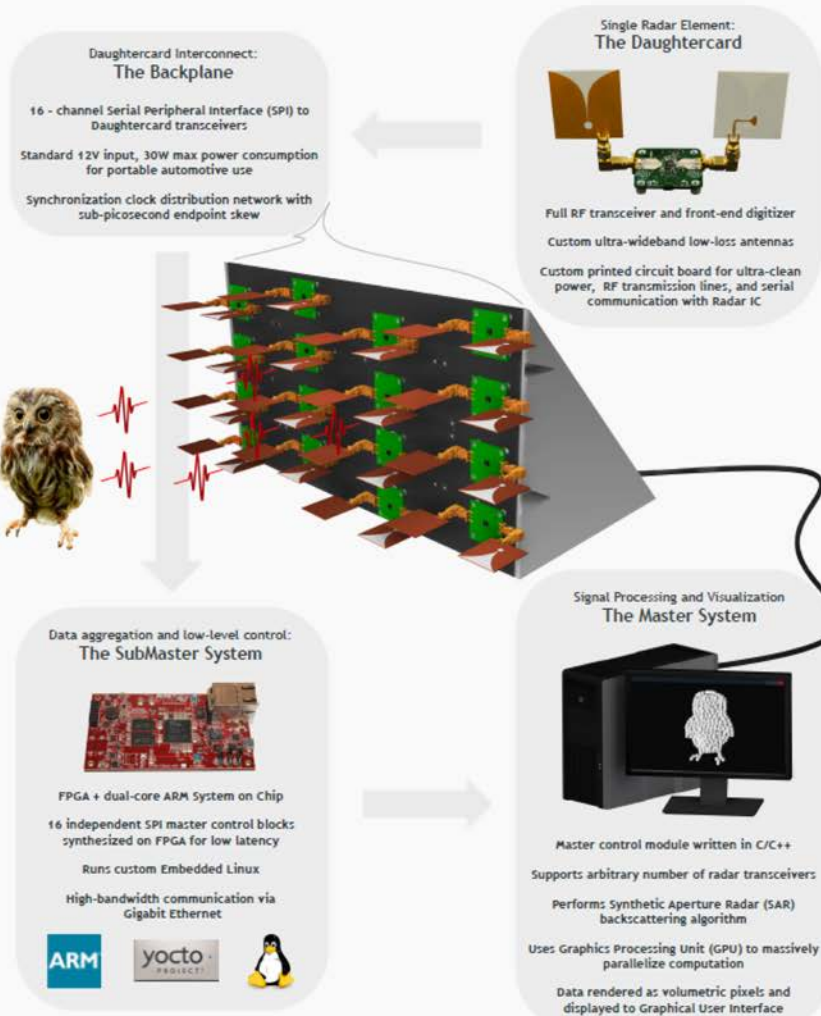
Automotive

- All-weather imaging for:
- Autonomous Navigation
 - Assisted Parking
 - Pedestrian Avoidance



Medical Imaging

- Safe, non-ionizing imaging for:
- Breast cancer detection
 - Heart rate monitoring
 - Respiration monitoring



Why a Radar Array?

Radar has special capabilities compared to alternative imaging tools in our application areas:



Compared to these technologies, radar has a unique combination of Cost, Occlusion Penetration, Resolution, and Range.



- Individual static radar elements can only distinguish one dimension.
- An array can steer the radar wavefront in 3D space
- Can generate narrower, more powerful beam.
- Higher signal-to-noise ratio → better resolution

Initial Testing

- Single-element performance consistent with our design criteria and target specifications
- Very good antenna and RF hardware performance
- Fully functioning digitizer hardware.
- Processing system represents significant improvement over sponsor's prior work in this area
- Full system testing currently under way

What's Next?

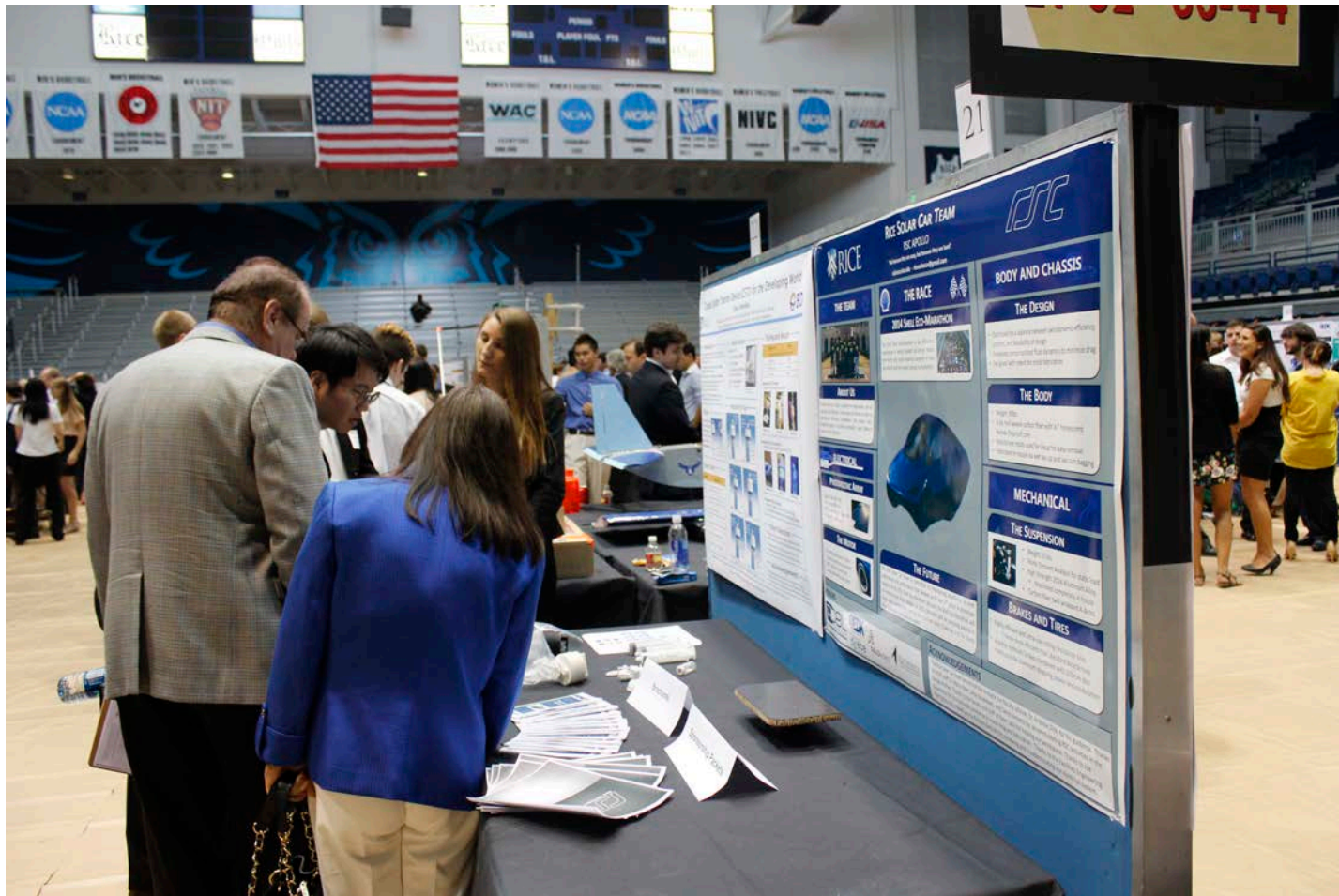
- This project will be developed further in the Rice Integrated Systems and Circuits Lab, including:
- Application of advanced array signal processing
 - Integration with world-leading radar chips
 - Testing in automotive and medical environments

Special Thanks

Project funded through the OEDK, IBM, Rice ECE and the Rice Integrated Systems and Circuits Lab. We would like to thank Gary Woods, Aydin Babakhani, and Peiyu Chen for their support and advice

Excellence in Engineering: 1st Place Engineering Design Award for 2015
Willy Revolution Awards for Innovation in Engineering Design 2nd Place

How will your poster be judged?



Your design choices should support these three points

- intellectually compelling **content**
- visually exciting **design**
- overall excellent **communication** with a general audience

*Stanford University, Criteria for the 2005 Symposium for Undergraduate Research in Progress Poster Award
Winners <http://web.stanford.edu/dept/undergrad/urp/SURP/surpawards05/>*

Intellectually compelling content

- Clear
 - a focused short story that's clear from 3-5 feet away
- Stand alone
 - a complete story that convey the whole message
- Help initiate discussions
 - Interesting facts or challenges that help initiate the discussions

Visually exciting design

- Text legible and brief
- Visually appealing
- Design uncluttered and straightforward

Excellent communication

- Prepare a short version (e.g. 1-2 min) and longer version story (e.g. 3–5 min)
- Be able to summarize your poster in 2-3 sentences.
- Be able to start at any point.

Visually exciting design

- Text legible and brief
- Visually appealing
- Design uncluttered and straightforward



How to make an effective poster?

Poster content

- Title and author list
- Abstract/introduction/motivation/problem statement
- Methods
- Results/findings (to date) or expected
- Possible applications, value to society
- *Future work*
- *Acknowledgement & contact information*
- *References*

How to decide the level of details for each section?

- What
 - What is the aim of your poster?
 - What is your key message/news?
- Who
 - Who is your audience?
 - What do they know about your project or research?
- How
 - Is there a logical order in which your information should be laid out?

Designing and making a poster

- Use succinct, descriptive, and large **text**
- Have strong supporting, readily comprehensible **graphics**
- Apply four design principles – **alignment, proximity, repetition, and contrast**

Text

Use Succinct, Descriptive, and Large Text

Tell a clear message from 3-5 feet away

- Carefully choose an active title
- Use descriptive headings and sub-headings
- Organize text in a hierarchy structure
- Keep text large

Active Title: 90

Descriptive headings: 60

Body text: 30

Font size in points

Visuals

Have strong supporting, readily comprehensible graphics and visuals

Use high-quality, high-resolution images



Print size: 4"x3"
Pixel resolution: 2000x1600
500dpi > 150dpi
Sharp and clear



Print size: 4"x3"
Pixel resolution: 100x80
25dpi < 150dpi
Blurry and pixelated

Apply four design principles

alignment, proximity, repetition, and contrast

THE AWARD-WINNING, BEST-SELLING BOOK ABOUT DESIGN

THE NON-DESIGNER'S
DESIGN
BOOK
FOURTH EDITION

DESIGN AND TYPOGRAPHIC PRINCIPLES
FOR THE VISUAL NOVICE

ROBIN **WILLIAMS**

- Proximity
- Alignment
- Contrast
- Repetition

Williams, R. (2015). *The non-designer's design book: Design and typographic principles for the visual novice* (Fourth edition.). Peachpit Press.

Nothing should be placed on the page arbitrarily.

Ralph Roister Doister

(717) 555-1212

Mermaid Tavern

916 Bread Street

London, NM

Group related items together; Align elements to make visual connections



Use contrast to draw attention and clarify communication; Repeat visual design element to create organization and unity

ANOTHER NEWSLETTER!

J a n u a r y F i r s t 2 5 2 5

Exciting Headline

Wants pawn term dare worsted ladle
gull hoe hat search putty yowler
coils debt pimple colder Guilty Looks.
Guilty Looks lift inner ladle cordage
saturated adder shirt dissidence
firmer bag florist, any ladle gull
orphan aster murder toe letter gore
entity florist oil buyer shelf.

Thrilling Subhead

"Guilty Looks!" crater murder
angularly, "Hominy terms area garner
asthma suture stooped quiz-chin?
Goiter door florist? Sordidly nut!"

"Wire nut, murder?" wined Guilty
Looks, hoe dint peony tension tore
murder's scaldings.

"Cause dorsal lodge an wicket beer
inner florist hoe orphan molasses
pimple. Ladle gulls shut kipper were
firm debt candor ammonol, an stare
otter debt florist! Debt florist's
mush toe dentures furry ladle gull!"

Another Exciting Headline

Wail, pimple oil-wares wander doe
wart udder pimple dum wampum
toe doe. Debt's jest hormone

nurture. Wan moaning, Guilty Looks
dissipater murder, an win entity
florist. Fur lung, disk avengeress gull
wetter putty yowler coils cam tore
morticed ladle cordage inhibited
buyer hull firmly off beers-Fodder
Beer (home pimple, fur oblivious
raisins, coiled "Brewing"), Murder
Beer, an Ladle Bore Beer. Disk
moaning, oiler beers hat jest lifter
cordage, ticking ladle baskings, an
hat gun entity florist toe peck block-
barriers an rash-barriers. Guilty
Looks ranker dough ball; bought, off
curse, nor-bawdy worse hum, soda
sully ladle gull win baldy rat entity
beer's horse!

Boring Subhead

Honor tipple inner darning rum, stud
tree boils fuller sop-wan grade bag
boiler sop, wan muddle-sash boil, an
wan tawny ladle boil. Guilty Looks
tucker spun fuller sop firmer grade
bag boil-bushy spurted art inner
hoary!

"Arch!" crater gull, "Debt sop's toe
hart-barns mar mouse!"

Dingy traitor sop inner muddle-sash
boil, witch worse toe coiled. Butter
sop inner tawny ladle boil worse jest

Another Newsletter!

J a n u a r y F i r s t 2 5 2 5

Exciting Headline

Wants pawn term dare worsted ladle
gull hoe hat search putty yowler
coils debt pimple colder Guilty Looks.
Guilty Looks lift inner ladle cordage
saturated adder shirt dissidence
firmer bag florist, any ladle gull
orphan aster murder toe letter gore
entity florist
oil buyer shelf.

Thrilling Subhead

"Guilty Looks!" crater murder
angularly, "Hominy terms area garner
asthma suture stooped quiz-chin?
Goiter door florist? Sordidly nut!"

"Wire nut, murder?" wined Guilty
Looks, hoe dint peony tension tore
murder's scaldings.

"Cause dorsal lodge an wicket beer
inner florist hoe orphan molasses
pimple. Ladle gulls shut kipper were
firm debt candor ammonol, an stare
otter debt florist! Debt florist's
mush toe dentures furry ladle gull!"

Another Exciting Headline

Wail, pimple oil-wares wander doe
wart udder pimple dum wampum

toe doe. Debt's jest hormone
nurture. Wan moaning, Guilty Looks
dissipater murder, an win entity
florist. Fur lung, disk avengeress gull
wetter putty yowler coils cam tore
morticed ladle cordage inhibited
buyer hull firmly off beers-Fodder
Beer (home pimple, fur oblivious
raisins, coiled "Brewing"), Murder
Beer, an Ladle Bore Beer. Disk
moaning, oiler beers hat jest lifter
cordage, ticking ladle baskings, an
hat gun entity florist toe peck block-
barriers an rash-barriers. Guilty
Looks ranker dough ball; bought, off
curse, nor-bawdy worse hum, soda
sully ladle gull win baldy rat entity
beer's horse!

Boring Subhead

Honor tipple inner darning rum, stud
tree boils fuller sop-wan grade
bag boiler sop, wan muddle-sash
boil, an wan tawny ladle boil. Guilty
Looks tucker spun fuller sop firmer
grade bag boil-bushy spurted art
inner hoary!

"Arch!" crater gull, "Debt sop's toe
hart-barns mar mouse!"

Dingy traitor sop inner muddle-sash
boil, witch worse toe coiled. Butter

Contrast, repetition, alignment, proximity (C.R.A.P.)

Good Design Is As Easy as 1-2-3

- 1. Learn the principles.**
They're simpler than you might think.
- 2. Recognize when you're not using them.**
Put it into words -- name the problem.
- 3. Apply the principles.**
You'll be amazed.

Good design is as easy as...

Learn the basic principles.

They're simpler than you might think.

Recognize when you're not using them.

Put it into words—name the problem.

Apply the principles.

Be amazed.

Williams, R. (2015). *The non-designer's design book: Design and typographic principles for the visual novice* (Fourth edition.), p12. Peachpit Press.

Designing/Making a Poster

- Poster size
- Poster orientation
- Poster layout
- Text size
- Text typeface
- Images
- Tables
- Graphs
- Color

Tools for Creating Posters

- MS PowerPoint

<https://library.rice.edu/services/dmc/guides/graphics/poster-ppt>

- Adobe InDesign
- Adobe Illustrator

Printing


PowerPoint, Illustrator and InDesign

- Save as PDF.
- Then use Adobe Acrobat or Preview to print.

Poster templates and printing resources

Available poster templates

- DMC poster templates
<https://wiki.rice.edu/confluence/display/DMCGUIDES/DMC+PowerPoint+Poster+Templates>

 **TITLE TO EXPLAIN YOUR PROJECT GOES HERE**
YOUR NAME/YEAR AND OTHER IMPORTANT INFO

RICE

INTRODUCTION

Il iniam as et re endaest, natem eos ipis es sed qui omnit a non ped millabo. Omnim laboruptas versperum endusam as reheniensis paruptatem ratem conesto ribus, nonectatia corae. Elenime vidusclur, sit aut minimus ipsusdam incte posam cusam nim vel eatur, optatur, experferae. Ignisciendel min re sunt eos excessed que niatur sundit faceatiatium hic Il iniam as et re endaest, natem eos ipis es sed qui omnit a non ped millabo. Omnim laboruptas versperum endusam as reheniensis paruptatem ratem conesto ribus, nonectatia corae. Elenime vidusclur, sit aut minimus ipsusdam incte posam cusam nim vel eatur, optatur, experferae. Ignisciendel min re sunt eos excessed que niatur

METHODS

Il iniam as et re endaest, natem eos ipis es sed qui omnit a non ped millabo. Omnim laboruptas versperum endusam as reheniensis paruptatem ratem conesto ribus, nonectatia corae. Elenime vidusclur, sit aut minimus ipsusdam incte posam cusam nim vel eatur, optatur, experferae. Ignisciendel min re sunt eos excessed que niatur sundit faceatiatium hic alseth.

RESULTS

Il iniam as et re endaest, natem eos ipis es sed qui omnit a non ped millabo. Omnim laboruptas versperum endusam as reheniensis paruptatem ratem conesto ribus, nonectatia corae. Elenime vidusclur, sit aut minimus ipsusdam incte posam cusam nim vel eatur, optatur, experferae. Ignisciendel min re sunt eos excessed que niatur sundit faceatiatium hasidifj ala ame quam re quasita loquam inducic e

CONCLUSIONS

Il iniam as et re endaest, natem eos ipis es sed qui omnit a non ped millabo. Omnim laboruptas versperum endusam as reheniensis paruptatem ratem conesto ribus, nonectatia corae. Elenime vidusclur, sit aut minimus ipsusdam incte posam cusam nim vel eatur, optatur, experferae. Ignisciendel min re sunt eos excessed que niatur sundit faceatiatium hic Il iniam as et re endaest, natem eos ipis es sed qui omnit a non ped millabo. Omnim laboruptas versperum endusam as reheniensis paruptatem ratem conesto ribus, nonectatia corae. Elenime vidusclur, sit aut minimus ipsusdam incte posam cusam nim vel eatur, optatur, experferae. Ignisciendel min re sunt

ACKNOWLEDGEMENT / BIBLIOGRAPHY

Il iniam as et re endaest, natem eos ipis es sed qui omnit a non ped millabo. Omnim laboruptas versperum endusam as reheniensis paruptatem ratem conesto ribus, nonectatia corae. Elenime vidusclur, sit aut minimus ipsusdam incte posam cusam nim vel eatur, optatur, experferae. Ignisciendel min re sunt eos excessed que niatur sundit faceatiatium hic Il iniam as et re endaest,

Place image here and delete this black box

Available poster templates



- Cain project poster templates
<http://www.owlnet.rice.edu/~cainproj/templates.html>

On-campus plotting resources

- Campus IT - Mudd building 110
- DMC – Fondren Library B2
- OEDK for engineering design teams

Plotting at the Campus IT - Mudd building 110

Plotters in Mudd Lab (Operations Center - Mudd 110)

Location	Paper	Printer Model	PC Queue Name	Cost per linear foot
Mudd 110 - Operations Center	roll paper (36" x 150')	HP PageWide XL 4500	plotter1, plotter2	\$3.00/linear foot
Mudd 110 - Operations Center	glossy roll paper (36" x 100')	HP DesignJet T7200	gplotter	\$7.00/linear foot (glossy paper only)

Rice IT Detailed cost and location of printers and plotters

<https://kb.rice.edu/page.php?id=71577>

Plotting at the DMC – Fondren Basement B42

- Plotting with help
- Paper available
 - Semi-glossy paper
 - canvas
- Payment
 - InterDepartmental Transfer (IDT)
 - Esther account
- Online price calculator:
<https://library.rice.edu/services/dmc/resources/peripherals/printers/plottercalc.html>

Plotting at the DMC – Fondren Basement B42

Cost for sample posters

Poster Dimension	Content	Paper	Esther account	IDT
24"x36"	Text + Images	Semi-glossy paper	\$13.8	\$8.2
36"x48"	Text + Images	Semi-glossy paper	\$27.6	\$16.4

Printing in the OEDK for design teams

<http://oedk.rice.edu/printingOEDK>

Equipment	Paper	Ink	Printer Model	Driver	Cost
PLOTTER	roll paper (36" x 150') Matte Paper	Full Color	HP Design Jet 4000ps PLOTTER	DesignJet4000PS	\$5.00/linear foot
PLOTTER	roll paper (36" x 150') Glossy	Full Color	HP Design Jet 4000ps PLOTTER	DesignJet4000PS	\$7.00/linear foot

Printing materials

Material type	Pros/cons
Plain paper or heavy weight coated paper	Cost effective.
Photo glossy paper	Color looks great, may introduce glare under light.
Matte paper	It reflects little light. It offers the best viewing experience.
Semi-glossy paper	Color looks great and the paper doesn't have glare under light.
Canvas	Foldable, great for travel.

Summary of making an effective poster

- *Content*
 - *Plan your poster*
 - *Include title, author, introduction, methods, findings, future work in your poster*
- **Design**
 - **Make sure **text** is legible from 3-5 feet away**
 - **Use **visuals****
 - **Make your poster clean and lean by applying four design principles – **alignment, proximity, contrast and repetition!****
- **Communication**
 - *Prepare a short version and a long version of your news/story!*

Getting Inspired by Viewing Online Posters

- SURP Poster Awards 2005 from Stanford U.
<http://web.stanford.edu/dept/undergrad/urp/SURP/surpawards05/>
- Gallery of customer work at PhD Posters
<http://phdposters.com/gallery.php>
- Eposters, the online journal of scientific posters.
<http://www.eposters.net/>
- Pimp My Poster Flickr Group
<https://www.flickr.com/groups/pimpmyposter/>

Further readings

- Guidelines for Posters. (n.d.). Retrieved January 20, 2012, from <http://www.pitt.edu/~etbell/upj-space/PosterGuide.htm>
- An Effective Poster :: Creating Effective Poster Presentations. (n.d.). Retrieved January 20, 2012, from <http://www.ncsu.edu/project/posters/NewSite/index.html>
- Designing conference posters » Colin Purrington. (n.d.). Retrieved January 20, 2012, from <http://colinpurrington.com/tips/academic/posterdesign>
- Cain Project: Poster Resources. (n.d.). Retrieved January 20, 2012, from http://www.owl.net.rice.edu/~cainproj/ih_posters.html