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**DESIGN PRINCIPLES
YOU NEED TO KNOW
WHEN *CREATING*
MULTI-TOUCH EXPERIENCES**

INTRODUCTION

Although touch screen technology has been available for decades, only recently has it become accessible to non-technical teams.

The result is an explosion in demand for interactive experiences coupled with little understanding of how to build them well. Products like IntuiFace enable creative groups to realize any design, even bad ones. So what is "good" design?

This e-Book ...

Contains insights we have collected from hundreds of touch screen engagements and thousands of deployments all over the world. They are based not just on our own efforts to create touch-first experiences, but on the feedback and insight we've received from IntuiFace users building everything from sales pitches and digital signs to information kiosks and art exhibits

Each of our 10 recommendations is broken down into concrete actions. None will constrain any concept or message, all will ensure that your designs reinforce their intent, improving engagement, increasing retention and encouraging action.

By following our guidelines, you put yourself at the forefront of touch-first design.

Thanks for reading!

Sebastien Meunier – Technical Evangelist

1. KNOW YOUR AUDIENCE

You're not building a touchscreen experience for your own amusement. There's an audience of people out there to whom you need to appeal. Get to know them.



1. Define target demographics.

Consider age, gender, background. Be conscious of this in your designs. Your messaging, calls to action, layouts, graphics and more will require one approach for twenty-something students and a different approach for retirees.

2. Estimate your target audience's comfort level with technology.

Your design must guide your audience without insulting them. You must also be careful not to make assumptions about the prior knowledge brought to your screen. For example, do they really know pinch and spread gestures can be used to resize images?

3. Even design aspects like font, font size and overall aesthetic can be impacted.

What is their level of education? Do they possess an increased likelihood of physical handicaps? Will there be international visitors?

2. KEEP IT SIMPLE

Embrace the 5 seconds or less rule. Whether you're trying to inform or sell, you've only got a short period of time to attract and capture attention.



1. Emphasize visuals over text.

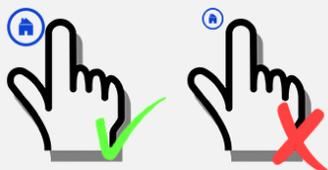
A picture is worth a thousand words, right? Not to mention it's easier on the eyes. A smart graphic will go farther than the most brilliant paragraph. But sure, if you can say it in three words or less, go for it.

2. Don't ever engineer.

Even modest interactivity will thrill your audience. The bar for looking modern is lower than you think. And trying to show off could backfire. Your fireworks could just be distracting or time wasters that sap attention spans.

3. Expect "fat" fingers.

You'll just frustrate your users with small and/or intricate designs. Make things easy to tap, grab, manipulate. Is the scene getting crowded. Split it up into separate steps rather than shrink everything to make them fit.



3. ATTRACT ATTENTION

Building for a public place? Don't forget you have to capture a passer's-by attention. The greatest touch-first experience is useless if no one approaches.

1. Create an attract loop

Attract loop is a video or effect designed to run endlessly when your installation is unattended with the goal of attracting attention.



We can't always place carnival barkers at each display, so you'll need the content itself to do the hard work. A looping video can do the trick.

Even better is to make it obvious that your screen is meant to be touched. Display messages like "Touch me!" or graphics indicating that poking fingers are welcome.



2. Take the environment into consideration

Want to use sounds/music to get attention? Not if your installation is in a loud place! On the other hand, a little "Psst!" message in a museum could do the trick.

Just be sure to balance effective with annoying. You want your content to be a pleasant surprise, not something to be avoided.

3. ATTRACT ATTENTION

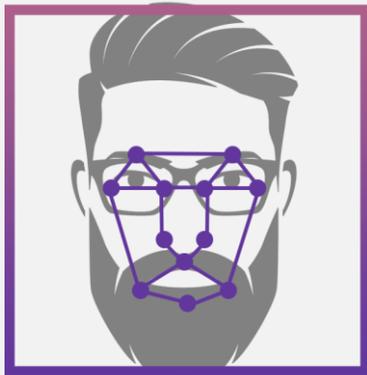
3. Anticipate and elegantly address transitions from one user to another

Minimally, insert a timeout after which your experience will reset to the attract loop.



Pick a length of time you believe won't end a session prematurely for a visitor. (If you have a three minute video, your timeout length should be at least three minutes and one second.)

Also consider adding a "Start Over" button so folks can reset the experience themselves. Keep in mind, this isn't just about your next user, it's about protecting the privacy of the previous user.



4. Think about presence detection

For example, IntuiFace can use services like Quividi or devices like Phidgets to sense when people are close to the screen.

Proximity detection becomes a trigger for on-screen actions. That'll really get your audience's attention!

5. Consider installation look and feel

The enclosure and/or mount should aid your efforts to be noticed. Just make sure your color and font selections fit the ambiance and serve the demographics well.

4. RESPECT PRIVACY

Every time a person touches your display, they are expressing a personal opinion. Your installation must account for the level of privacy a visitor will require to feel comfortable.



1. Screen size and design are influenced by intimacy of decisions your visitors will make.

A large wall-mounted display probably isn't best if you're collecting credit card numbers.

On the other hand, if you want to attract a crowd, make it loud and proud. It helps to know your demographic as well.

Will they be comfortable knowing they'll be watched by others?

2. If personal information is collected, make sure purging occurs clearly and effectively.

If you collect anything personal - from first name or email address to credit card information - it must be clear to your user that they can trust your installation to respect their privacy.

Certainly, you need some visual element indicating the transaction has completed. Perhaps a message at the very beginning to allay concerns ("We promise to respect your privacy and not share any of your personal information with....").

And at all points, display some sort of "Cancel" option which is followed by a message indicating all personal information has been purged.

4. RESPECT PRIVACY

3. Use table-mounting, enveloping enclosures and other physical approaches to increase a sense of security

If intimacy is important, reduce the screen footprint and install it so that onlookers won't be able to see the screen when in use.

If you're telling users to "cup their hands over the screen to prevent peeking", your installation has failed. You'd want the same if you were the target audience.

4. On the other hand, touch-first experiences can draw a crowd.



Interactive Social Wall by Kega for Hunkemöller

Museum installation? Go too small and people may not even notice. Want multiple participants? Interesting because this might benefit from a table-mounted display, enabling 360 degrees of participation. In this latter case, signage may be necessary. Aesthetics play a role as well. If there are multiple, equally important themes, settle on a modest-sized display to reduce cost and create an equitable distribution.

Plus, once visitors get the idea, you won't need to advertise every display. Visitors will seek them out.

5. MEASURE TO MATURE

The beauty of an interactive experience is you can know exactly what your audience is interested in. None of the guesswork that comes with passive, signage-like installations.



1. Identify actionable metrics

Don't just measure for the sake of measuring. Identify those things whose measurements can lead to action.

Testing out new content? Then measure how often calls to action are selected. If people aren't doing what you want them to do, revisit your design.

Running promotions?

Then track which are the most popular items or incentives and use this insight for future campaigns.

Installing digital exhibits?

Find out which screens or topics are most popular. What does this tell you about your visitor demographics and which topics might be suitable for future exhibitions.

In general, the goal is to either improve the effectiveness of your installation, to improve your understanding of the targeted audience, or both. (And use IntuiFace's data tracking feature to do it!)

5. MEASURE TO MATURE

2. If applicable, supplement with additional detail like location, time or weather

Don't pass up the opportunity to collect environmental data; you'd be amazed at the unexpected correlations you discover.

Imagine you're hosting ads, charging vendors on a per-touch basis. (Yes, you could do that with IntuiFace!) Measure vendor popularity based on seasonal changes, times of day, correlation with local events, etc...



Improve targeting so both you and your clients get the most for their money. And be creative. If the information is accessible on your devices, you can use that information to identify interesting patterns.

3. Assess stats on a frequent basis

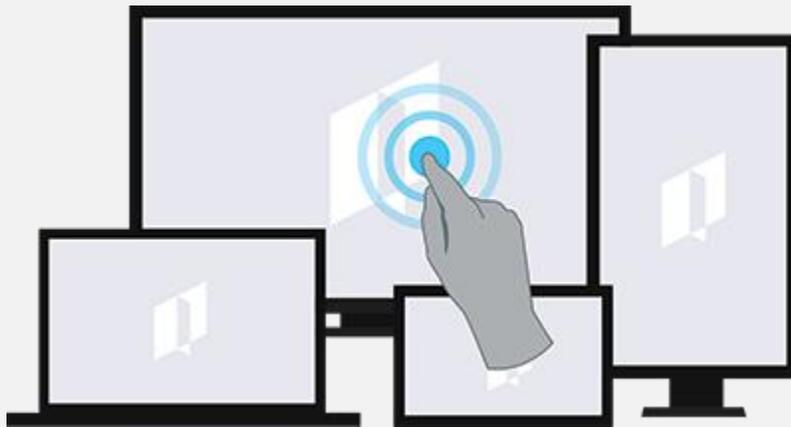
Ideally, you don't just check in at long intervals, you look for micro-trends or early insight into more macro patterns. This way you can react and adapt on the fly.

With the right setup you'll be able to tune your installation on a daily basis, either to course correct or to test adjustments.

For example, run A/B tests where you randomly assign one of two options to each visitor. Which is more effective? Check frequently just in case one option is clearly better than another.

6. DON'T OVERLOOK HARDWARE

We're talking about both the PC/device running your interactive experience and the enclosure. Every detail influences both expense and your audience's impression of quality and style.



1. Consider look, size and placement from the very beginning

Wall-mount, table or kiosk? Large screen to grab attention or small screen for privacy? Additional signage that can be seen from a distance? In the aisle or the end cap?

Answer these questions wrong at your peril. And this isn't just about the physical aspects of your deployment. The visual you create in your experience must complement your decisions about look, size and placement.

Building for a table-mounted 12" display is quite different than for a 82" wall-mount. Consider all of this early in the process to ensure your budget and design meet the mark.

6. DON'T OVERLOOK HARDWARE

2. Strike the right balance between cost & speed/accuracy of a touch display

What touch display should you get? There's no right answer but it comes down to finding the right balance between cost and aesthetics.

The more you spend on a display, the better the performance (i.e. reaction to a touch) and the more touch points supported. But do you really need 10 touchpoints on your 24" display or would two be enough? And is performance of Display X good enough?

There are even – across a range of prices - touch overlays you can pair with non-interactive displays. Do your homework. But don't be too stingy or your touch display could kill the whole experience.

3. Don't overlook installation protection and security

iPads are great but you probably don't want random visitors to run off with them. And repair options are limited so maybe letting people hold the Chrome device is a risky approach. Oh, and even on the wettest day you'll have children playing with your kiosks.



Credits –
invusecurity.com

When planning your installation, think about security, both protecting integrity and preventing theft. We're sorry to say it but don't trust in the good graces of your fellow man or woman.

7. HAVE A CLEAR CALL TO ACTION

Even an art exhibit must be clear about what it expects of a visitor. Don't spend all your time and money on an installation unless you can justify the effort. What do you hope to achieve? How do you make sure it happens?



1. Be clear about you want your audience to do

Don't get fancy and make it a mystery - well, unless that's the point. What is expected of your audience should be obvious.

Be creative, sure, but hold their hand and point them in the right direction. If you're not clear then at best your users will wander aimlessly. At worst, they'll walk away.

2. Don't clutter

Try not to overdo it. This isn't about you and how cool you can be with technology. Stay focused, avoiding unnecessary options or off-topic diversions.

Limit choices to those that move your users in the right direction. Every second they linger should be both productive and in the service of your goal.

7. HAVE A CLEAR CALL TO ACTION

How are you tracking your level of success? Yes, even an interactive art exhibit must be clear about what it expects of a visitor. Don't get us wrong. The goal isn't necessarily getting a purchase or email address. Maybe it's to educate, or promote or inspire.

3. Provide incentives

Of course, your objective is meaningless if there's nothing in it for your audience. Why should they bother? Is the content you provide a reward in and of itself?

If not, what can you offer to encourage use and compliance with your end goal? Be sure you can answer the question, "What's in it for them?"

4. Measure to improve

We already talked about "measuring to mature" on pages 9-10. Use data tracking to identify whether folks are embracing your content the way you'd hoped. If not, what are they actually doing?

Use this insight to improve your design/content/installation. Avoid the assumption trap, assuming that everything is working well. It's more than trust but verify. It's don't trust AND verify!



8. DESIGN FOR USABILITY

Make sure your users always feel in control. There should be a sense of familiarity and no sense of being lost or not knowing how to start over.

1. Use graphic-based instructions for anything but the simplest interaction

Multi-touch is great but assume anything beyond traditional iPhone-like gestures – drag to move, pinch/spread to resize – requires education.

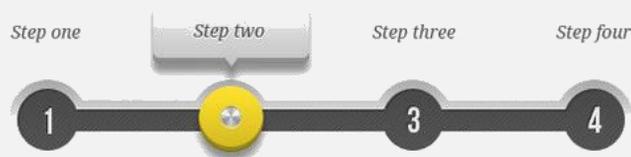


Use visuals to instruct users how to do something. (A picture is worth a thousand words.) And sure, you want to show off by creating a really funky interactive sequence, but who's going to understand it? Be realistic and respect your users' time.

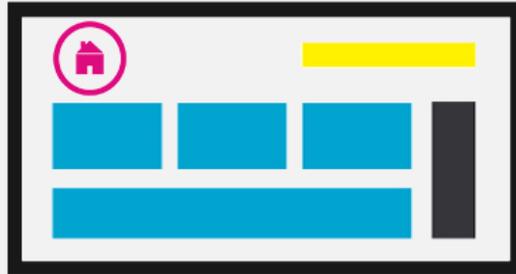
2. Consider the use of breadcrumbs

If you're building something comprised of steps, be visually clear about where the visitor is in that process and how to move both forward and backward. These "breadcrumbs" will keep your users grounded, comfortable because they know where they are, how to change their mind, how to progress.

Feel free to be creative in how it looks, just don't sacrifice utility for artistry. Doesn't matter if it's pretty if no one knows how to use it or find it.



8. DESIGN FOR USABILITY



3. Always enable a way to get “home”

It should be obvious how one can start over or return to the start page. Don't be subtle or assume people will know they should tap your logo. It should be instantly obvious.

This isn't just helpful for your users, it's good for you too as it is important to distinguish between individuals when tracking interaction for analysis.

4. Provide visual (and optionally) auditory feedback for all actions.

This is for everything from a button press to a swipe gesture. Your visitor should never have to wonder if their actions have been recognized.

Be honest, you hate not knowing yourself. Did I touch this button? Is something happening? Even a visual as simple as a shading change (see graphic below) can make all the difference.



9. TEST, TEST, TEST

Sorry, but some of your assumptions will be wrong. Anticipate this fact and test everything.



1. Be humble and run a pilot

Is your design really as intuitive as you thought? Were you right about the demographics of the typical user? Do your users feel they are being given the right amount of privacy?

There's only one way to know - run a pilot. Maybe you sit there with a clipboard or perhaps you have the experience itself collect data for offline study. Either way, get your work out there and find out what you got wrong.



Touchscreen kiosk in « Orchestra – children's clothing store »

2. Location reality may be different from plan

What's that again about assuming? Your client told you it's a quiet, low traffic area. Did you check?

You're told it has high visibility. It's a low-light environment. Is it? Don't be lazy. Visit the location.



TEST, TEST, TEST

“Never stop testing, and your advertising will never stop improving.” - David Ogilvy

3. Check network speeds and potential cost

If your deployment assumes an Internet connection - for example, to accommodate remote deployment or data access - make sure it's sufficiently fast and reliable.



You'd be surprised how lousy it can be in public places. And if the installation is isolated, don't forget the cost of a data plan over a 3G/4G connection.

4. Expect requirement and scope changes

What your client requested and what they meant will, at times, be two different things. And with two weeks to go, that one little change they ask for could require an additional month of work.

Regardless of whether your client is outside your company or part of an internal team, share your work early and often. The more you collaborate, the more you get on the same page. Assume nothing.

10. PREPARE TO SHARE

Collaboration is grease on the wheels of productivity.



1. Name everything

Establish specific, descriptive naming conventions for your media. For example, shame on you if naming your images "Image1", "Image2", It should be fairly obvious how graphic media maps to in-design elements.

And be consistent. If you name the button `btn_Exit` in one scene, use the same name in all other scenes.

2. Incorporate notes

Document your thought process, cataloging decisions made and approaches taken. Reverse engineering - trying to figure out how a particular goal was achieved - can be quite difficult.

And you won't always be present or accessible, nor is it safe to assume your colleague or client can guess your intentions.

Record your thoughts, both in the project itself and outside in a knowledge base.

10. PREPARE TO SHARE

3. Use templates if possible

When possible, turn your ideas into repeatable templates. In essence, you're codifying lessons learned and best practices, making it easier for you and your colleagues to start work for a new client. Even better, time-to-completion is improved because of the jump you have over starting from scratch.

The result is scale, your team's ability to get more done with the same number of personnel in the same amount of time.

A Final Thought...

It sounds trite but the greatest skill is perseverance. Every hour invested in an effort is one more step towards competency and, perhaps one day, expertise. I hope the information I've shared increases your confidence in and eagerness to build interactive experiences. Look around – interactivity is everywhere. The opportunities are endless.

-Seb

Learn More About IntuiFace

IntuiFace is the leading cross-platform software empowering anyone - of any skill set and in any business - to create, connect, deploy and measure touch-first digital experiences without writing a line of code.

Build on Windows, run on Windows, iPad, Android, Chrome, or Samsung SSP

Watch a 90 second Intro



Head over to www.intuilab.com and download the Free Edition!

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