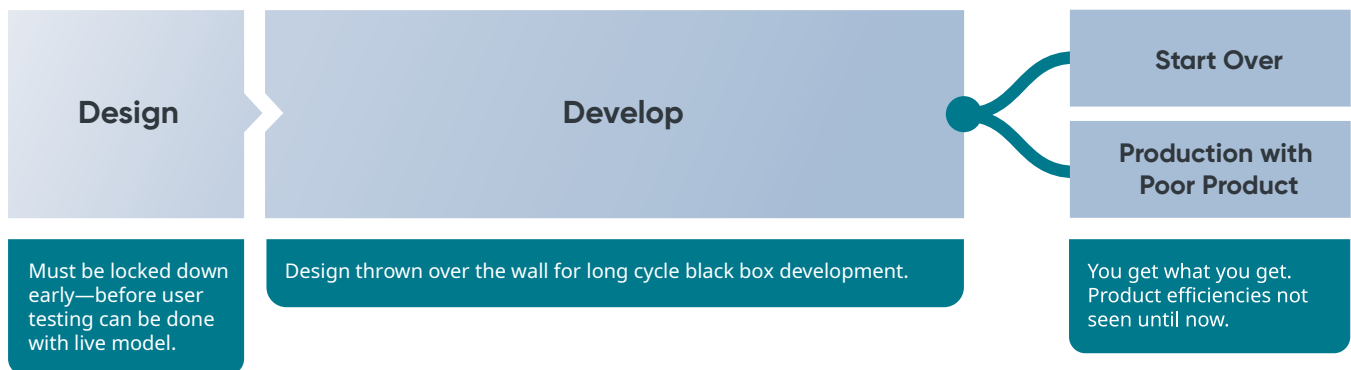# Embedded GUI Development

How do you get your product designers and engineers on the same page?

Your Product Designers are putting together the ideal look, feel and feature list for that next generation product. They have carefully drawn up and storyboarded a user experience that will dazzle your customers and, hopefully, win your market. It's very possible that they're specifying sophisticated animations, 3D and full color graphics. It's also very possible that they have no idea what it takes to bring those features to life in an embedded device.

Product Design hands off their specifications to Engineering—a talented team who wants to grant every aspect of the Design team's vision to your production device. Engineering is also tasked with delivering GUI on hardware that fits within the boundaries of your bill of materials. They move forward with a design that their hardware can bear. It falls painfully short of the vision from Product Design and, because Engineering did not understand all the requirements laid out in Product Design's specification, the UX fails too.

Traditional Workflow

| Design	Develop	Start Over
		Production with Poor Product
Must be locked down early—before user testing can be done with live model.	Design thrown over the wall for long cycle black box development.	You get what you get. Product efficiencies not seen until now.

Where did this project go wrong?

- It's not enough to hand off a design and assume everyone understands.
- Written specifications are difficult to interpret.
- User requirements can get lost in translation.
- Product Designers don't see the GUI until it's too late to fix it.
- Lack of communication during the development process leads to failure of product.

Model-Based Development for Clear Communication and Collaboration

With a model-based development process, Product Design and Engineering collaborate early in development around a single GUI model. Engineering gets a clear understanding of product behavior—button presses, menu layouts and more. Product Design can see how their GUI performs with prototypes and even on hardware in real use-case situations.

Together, Product Designers and Engineers can make informed decisions and tradeoffs during development so that they achieve a user-centered GUI with the best combination of features, functions, price and performance.

Sample Model-Based Workflow

Design	Prototype	Test	Generate Code	Production

**Perfect performance and UX at all stages of development.**
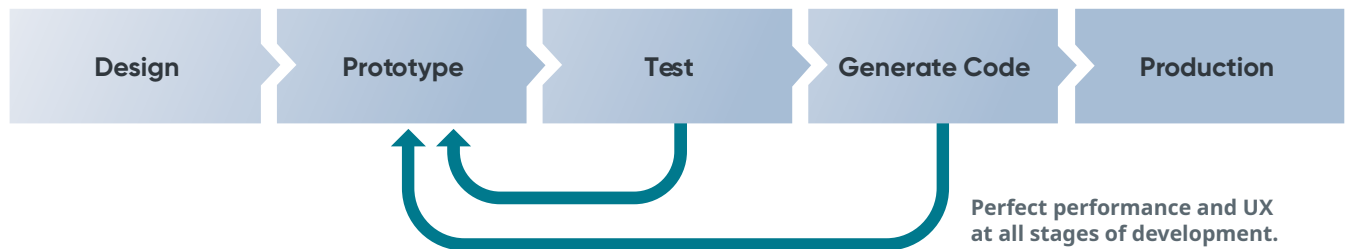
Why model-based development is the right move

- GUI model keeps everyone on the same page.

- Test early and often to ensure a seamless user experience.

- Save cost by finding bugs and performance issues early.

- GUI model helps both teams make smart, well-informed tradeoffs.

- Generate code on your reference hardware to validate performance.

- Test users in real-life settings cases to find usability challenges.

- The more testing, the better UX for your final product.

- Use the same GUI model from start of project all the way to production.

Altia: A Production-Proven, Model-Based GUI Development Solution

Altia offers a model-based development approach to get Product Designers and Engineers on the same page. We readily enable teams across the hall or across the world with cloud-based software that can deliver the same feature set and assets to every team member. We take the hassle out of tedious configuration that is often required for managing color depth and hardware idiosyncrasies.
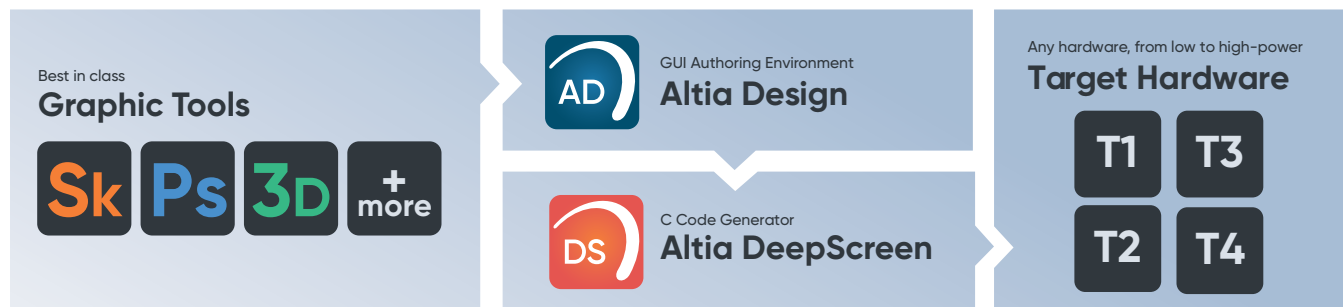
Our GUI editor, Altia Design, leverages third-party graphics from Photoshop, Illustrator, Sketch, Maya, Blender and more. Developers import those graphical assets into Altia Design, assign animations and stimulus and then connect to control logic to create a working GUI model. This model can be shared with Product Designers, Executives and Customers to test behavior and user experience. Iterations to the GUI model can be made quickly improving the quality of the GUI and accelerating development.

Developers can then generate code and test on reference hardware using Altia's code generator, Altia DeepScreen. Engineers and Product Designers can get an early understanding of how their GUI performs on hardware that fits in their budget and make informed, strategic decisions on how to deliver the right balance of features, functionality and performance for their final product. DeepScreen supports a vast range of low- to high-powered processors from a variety of industry-leading silicon providers. Altia generates pure C source code that is optimized to take full advantage of hardware resources, so GUI development teams can deliver the most optimized GUI for production.

Altia-generated graphics code is driving millions of displays worldwide—from automotive instrument clusters, head-up displays, radios and full integrated cockpits to thermostats, washing machines and healthcare monitors. Our mission is to get the best automotive, medical and consumer interfaces into production in the shortest time on the lowest cost hardware.

Want to learn how Altia can help you get your next GUI from pixels to production? Request a free, no obligation demo with us today.

Contact Us

For more information about how Altia can help you get your next great GUI into production, visit **www.altia.com** or email *info@altia.com*.

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