How to use visual prototyping

Whitepaper, Software Development/visual prototyping

What is Visual Prototyping?

Visual prototyping is the practice of developing the interface and functionality of a software application without all of the underlying code, so that the customer can get a better feel for the end result. At Cirrus Software, we use a combination of designed screen shots, video walk-throughs, and story-boards to indicate how the navigation, business logic and user interface will work in the final version of the software.

Why use visual prototyping?

Traditionally, one of the biggest problems with developing software has been the seemingly un-ending iterations of programming which occur between the customer and the design and development team. In conjunction with this, the team which is developing the specifications for the programmers is often unable to foresee potential problems until the software is up and running. Visual prototypes eliminate many of these classic problems and is now considered to be one of the best practices associated with software development.

How does it work?

Using a visual prototype made from any combination of technologies assists in the understanding of the how the software will work and what the user interface will look like. The prototype is utilized to give the end-users a visual walk-through of what the software will look like and how it will flow. This will allow for feed-back from the end-user to be quickly incorporated into the software specifications for final development.

Visual prototyping also allows for a very rapid application development cycle. Using technologies which don't require a technical infrastructure allows the development and design team to focus solely on the user interface and functionality components of the software.

Then, once those are shaken out, the programming development team can focus on the technical aspects of writing code to create the final product, based upon the prototype. Even when some form of visual software development tool is used for the prototype, the team does not have to be concerned with the maintainability of that code nor with formally documenting it.

This results in a much quicker development cycle with better time frame and milestone estimates.

What are the advantages?

Utilising visual prototyping can drastically reduce the time associated with final software development. By gaining a deeper understanding of user interface and functionality before any real code is written, the design and development team can design much more detailed design specifications. This will allow the programmers to create a tighter software product which performs more closely to the business requirements.

In addition, by flushing out any glitches and business logic early, problems can be resolved quickly, with a minimum of fuss. And, because changes to code can cost exponentially more to implement as they are detected later in development—a prototype can result in faster and less expensive software. So the result can be huge cost and time savings.

Improved and increased user involvement:
In traditional software development, there is often a huge gap between what the users envisions as the final product and the actual interface and business logic of the final delivered product. Prototyping allows intensive user involvement and interaction, resulting in early user feedback.

For example, because our customers can see storyboards, videos, and screen shots, they can get a good feel for how the final software will look and feel. As a result, any required changes can be made during the visual prototype phase, when they can be quickly implemented, rather than during the development phase, where it can be costly and time-consuming. The result is a final delivered software product which very closely matches clients' expectations.

Conclusion:
Software prototyping, the process of creating an incomplete model of the final software program can be used to let end-users see a visual demonstration of the completed software program.

Using this best practice of early prototyping is becoming absolutely fundamental to the success software development projects.

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