

Product Design: Bridging the Gap between Product

By Sean Van Tyne

Product Design is the bridge between Product Management and Product Development. Product Management quantifies the problems, writes requirements, and validates the solution; Product Design analyzes the requirements, designs the solution, and writes specifications; and Product Development builds the solution, tests and fixes bugs, and writes documentation.

While Product Management is focused on the market and the customers' business needs and Development is focused on the customers' *technology* needs, Product Design is focused on the customers' *end-user* needs.

Product Design focuses on the users' experience and their interaction with the technology.

The customer is the person who decides whether or not to purchase the solution, while the user is the person who uses the solution. For enterprise software, the *customer* is usually someone in upper or executive management interested in finding the best way to bring efficiency to their operation while the *user* is typically a company employee more interested in completing their daily assignments as easily and effectively as possible. The customer is looking at the overall workflow of their organization and how specific

software solutions might improve it, while the users tend to emphasize the software's ease-of-use.

For this reason, Product Management, Design, and Development work together to understand the market, customer, and users' needs, and design and develop technology solutions that meet these needs.

Identify problems & quantify opportunities

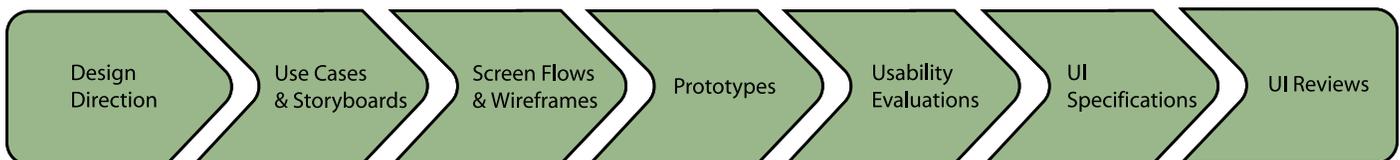
Product Management identifies problems in the marketplace, conducts analysis, and quantifies opportunities for solutions to the

Product Design Steps

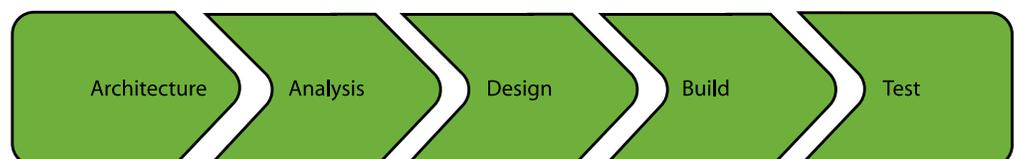
Product Management



Product Design



Product Development



Graphics: Jessyca Wallace Frederick

Management & Development

problems. Product Management develops a better understanding of the market, customers, and the customers' end-users, to create Buyer and User Personas. Personas are a stand-in for a unique group of people who share common goals. They are fictional representatives—archetypes based on the users' behaviors, attitudes, and goals.

In some companies, the Product Design group assists Product Management in developing personas. As part of the design process, product designers conduct qualitative research that includes reviewing the target market segmentation and demographic data necessary to establish the design direction. Designers also interview stakeholders, customers, and users, in order to gain insight into the product domain and user population. This information feeds directly into the types and characteristics of the personas that drive the design.

Once personas have been developed, scenarios are created. Scenarios are “short stories” that describe a user's interaction with the solution. Scenarios are useful to Product Management to help define the business cases and useful for Product Design to help define the user interface design.

Product Management and Product Design use the scenarios to develop use cases. A use case is a single case of use—user interaction with the solution—that is well-defined, and meaningful from the user's perspective. Use cases are more detailed than scenarios—more systematic and structured—and define the tasks and expected outcomes.

Use cases provide a concise medium for modeling user requirements; are a powerful tasks model for understanding user needs and guiding user interface design; and guide the design of communicating objects to satisfy functional requirements for Development.

Writing requirements & validating solutions

Product Management writes requirements that identify the problems in the marketplace and quantifies opportunities for their solutions. Product Design assists Product Management in validating the solutions. Information Architects or Usability Specialists develop, conduct, and analyze surveys, interviews, and/or observations. The data from these studies helps identify problems and opportunities that are realized in the requirements.

Product Design develops prototypes that Product Management use to elicit feedback from customers to validate the solutions. Designers create wireframes to elicit feedback on conceptual user interface designs. Wireframes are a basic visual guide used to suggest the layout and placement of fundamental design elements in the interface design. They provide a visual reference for the structure of the screens, define the positioning of global and secondary levels of the information hierarchy, and maintain design consistency throughout the application.

Writing the requirements and validating the solutions is an iterative process. New insights in validating the solutions require the requirements to be updated. Updated requirements require more

validation. This process continues until the requirements are adequately validated.

This iterative process overlaps with Product Design activities such as analyzing the requirements and designing the solution.

Analyze the requirements & design the solution

Product Design conducts an analysis of the market, technology, and competition, in terms of the user experience and interface design, early in the product lifecycle to determine the user interface (UI) design direction. Partnering with Product Management, the Product Design group conducts surveys, focus groups, reviews, and other activities to better understand the market, customer, and end-user problems that are being solved in terms of the user experience and interface design.

Product Design conceptualizes a solution to the problems identified in the requirements document that Product Management creates. The Product Design team develops storyboards, screen flow diagrams, wireframes, prototypes, and other artifacts to validate the UI workflow solution. UI design prototypes are iterated with customers and their end-users to ensure the solution continues to solve their business problems.

Insight from the analysis and design can cause some revisions and/or refinement to the initial requirements. Product Design also designs and develops some or all of the presentation layer components for the Product Development team. →

Write the specification & build the solution

Product Design writes specifications from which Product Development builds the actual software solution. Product Management writes market requirements, Product Design writes UI specifications of the user behavior, branding, and common look-and-feel and Development writes system specifications for the development of the user interface. Wireframes, use cases, and/or a prototype should be evaluated with the customers' end-users for usability issues—effectiveness, efficiency, and satisfaction—prior to final specification.

Usability evaluation and UI specification should be completed in the first phase of development. The UI specification along with Product Management's requirements should communicate to Development who we are building our solution for and what problems we will be solving for our market, customers, and end-users.

Product Development builds the solution based on requirements and specification provided by Product Management and Product Design. Product Design partners with Product Development in terms of the UI and presentation layer detailed design. Technology issues require revisions to the presentation layer user interface and UI specification, in which case Product Design and Product Development partner to determine the best approach on a case-by-case basis.

Product Development tests and fixes bugs in the final phases of development. Product Design reviews the UI design in the development testing environment and may request changes to ensure that the design developed follows the UI specification. These UI change requests could be informal or formal depending on the size of the team and the company's software development process. Depending on the relationship of the UI Designers and UI Developers, Product Design works together with Product Development to find the best solutions to the fixes concerning the user experience and interface design.

Conclusion

Product Design works with Product Management and Product Development throughout the product lifecycle. In many cases, Product Design elaborates on the solution that Product Management provides for Product Development to build. Product Design partners with Product Management early in the product lifecycle to quantify, analyze, and validate solutions, and partners with Product Development to design, build, and test the solution, thus fulfilling its role as a bridge between these two functions. **TPM**



Sean Van Tyne is CEO and Principal Consultant of Van Tyne Consulting, Inc. Van Tyne Consulting helps corporations realize their user experience strategy—bridging Marketing and Technology—marrying Product Management frameworks to Development best practices. From strategy, goal, and direction through process, tools, and resources, Van Tyne Consulting helps your company deliver innovative solutions with best-in-class user experience. To learn more, please visit www.vantyneconsulting.com

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