# Product Requirement Document for Ford Vehicle Design

# **Executive Summary**

This report outlines the critical elements and structure of a Product Requirements Document (PRD) tailored for Ford's new vehicle design process. A PRD is a vital tool for Ford, serving as a comprehensive communication medium that aligns business and technical teams throughout the vehicle's development, launch, and marketing phases 1. The scope of this report encompasses the essential components of a PRD, its general structure, adaptable templates, and Ford-specific requirements. Key findings emphasize that a well-crafted PRD should encompass the product's purpose, features, release criteria, and timeline, all subject to stakeholder review 2. The general structure includes a title section, introduction, objectives, stakeholder identification, use cases, and considerations for hardware, software, design, user experience, manufacturing, and regulatory compliance 4.

For Ford, adherence to customer-specific requirements is paramount, particularly concerning quality management systems and production part approval processes  $\underline{7}$  8. This includes the use of a Special Characteristics Communication and Agreement Form (SCCAF)  $\underline{7}$ .

An effective PRD template for automobile design teams, like Ford's, should include a product overview, purpose, objectives, success metrics, feature outlines, scope definition, design specifications (aligning with Ford's brand guidelines, including visual identity elements like the Ford Oval and Ford Blue color palette 15), technical, environmental, and safety requirements, and defined release criteria 14 2. User stories and acceptance criteria are critical for ensuring a user-centric development approach 12. Further elements should incorporate a change history, product messaging, target personas, features deliberately excluded, open issues, and frequently asked questions 1.

While a specific Ford New Vehicle Design Process PRD example is unavailable, Ford's vehicle design process involves research, concept development, prototyping, testing, and production stages 17. A PRD for this process would include sections for target audience, feature specifications, design considerations, testing and validation plans, and manufacturing considerations 17. Crucially, Ford's customer-specific requirements, such as those related to FMEA, control plans, and special characteristics, must be integrated 21 22 23 20.

Finally, the integration of customer feedback is a cornerstone of Ford's design process, achieved through market research, customer immersion events, focus groups, social media monitoring via an "Always On" team, and in-vehicle feedback tools 27 30 28. This feedback is analyzed and used to refine vehicle styling and functionality 27.

# **Introduction to Product Requirements Documents (PRDs)**

A Product Requirements Document (PRD) is a crucial communication tool for product managers, defining the intent, target users, and benefits of a product throughout its development, launch, and marketing phases  $\underline{1}$ . It acts as a guide for both business and technical teams  $\underline{1}$ .

The key elements of a PRD include purpose, features, release criteria, timeline, and stakeholder review 2. The "purpose" defines the product's target audience and the reasons for its creation, outlining the problems it solves, its user base, and its value proposition 2. The "features" section details all required functionalities, specifying what the product should accomplish 32. "Release criteria" establish the goals and standards for the product's release 2, while the "timeline" provides an estimated schedule for development and launch 2. Finally, stakeholder review ensures that all key stakeholders examine and approve the document 2.

A PRD generally follows a structure that incorporates several key sections  $\underline{4}$ . The "title section" includes project details like the title, code, responsible manager(s), creation date, and document version  $\underline{4}$ . The "introduction" provides background information, context, and defines the problem or user needs  $\underline{4}$ . "Objectives" states the vision, goals, and product positioning  $\underline{4}$ . The "stakeholders" section identifies all relevant parties, including users, purchasers, manufacturers, customer service, marketing & sales, external partners, regulatory instances, and retailers  $\underline{4}$ . "Use cases" describes user stories  $\underline{4}$ . "Aspects" covers hardware, software, design, user experience, interactivity, customization, manufacturing, and regulatory considerations  $\underline{4}$ . Additional sections may include open questions, future work, milestones, resources, appendices, and a glossary to explain technical terms  $\underline{4}$ .

For Ford, a PRD is essential for aligning vehicle design with brand standards, customer needs, and technical requirements. The following section will delve into specific template components applicable to Ford's vehicle design process.

# **Key Elements of a PRD**

A Product Requirements Document (PRD) is a crucial communication tool for product managers, defining the intent, target users, and benefits of a product throughout its development, launch, and marketing phases 1. It serves as a guide for both business and technical teams 1. A PRD template for automobile design teams, such as Ford's, offers a structured framework that guides the development of new automotive products 12 [13] (https://www.meegle.com/en\_us/advanced-templates/automotive\_industry/automotive\_product\_development\_template].

Key elements typically included in a PRD are purpose, features, release criteria, timeline, and stakeholder review 2. For Ford, these elements should be aligned with brand standards, customer needs, and technical requirements.

● Purpose: This defines who the product is for and why it's being built 2. It should outline what problems the product solves, who will use it, and how it will provide value to customers 2. Specifically, for an automobile design PRD, the "purpose" should define the product's objectives, including what it will do and what problem it aims to solve 14 2. A well-defined objective for your product provides a North Star for the entire project, guiding decision-making and making sure everyone is aligned on the product's purpose 14.

- Features: This outlines what features the product will have [2] (https://www.perforce.com/blog/alm/how-write-product-requirements-document-prd]. Detailed descriptions of all required features and functionalities should be included, specifying what the product should do 3. When creating an automobile design PRD template, it's important to outline the primary features and be specific about how they will make things easier or better for the user, including any product compatibility notes, including how it works with other products in an ecosystem 14.
- Release Criteria: This sets the goals and standards for the release <u>2</u>. When creating an automobile design PRD template, set the goals and standards for the release criteria 2:
  - $\bigcirc$  Functionality: Define the minimum functionality needed to achieve the purpose and release the product  $\underline{2}$ .
  - O Usability: Ensure the product is easy to use 2.
  - O Reliability: Determine that your product is reliable <u>2</u>.
  - O Performance: Set a baseline for performance  $\underline{2}$ .
  - O Supportability: Determine that the release can be supported  $\underline{2}$ .
- **Timeline:** This provides an estimated timeline for the product's development and release 2.
- **Stakeholder Review:** This ensures all key stakeholders review and approve the document <u>2</u>. When creating an automobile design PRD template, identify users, purchasers, manufacturers, customer service, marketing & sales, external partners, regulatory instances, retailers, etc <u>4</u>.

In addition to these core elements, a PRD for Ford vehicle design should incorporate several other key components:

- **Product Overview:** Including the product and project name, project manager, version, and other essential information <u>14</u>.
- Success Metrics: Defining clear Key Performance Indicators (KPIs) to ensure the product meets your internal goals for the project <u>14</u>.
- **Scope:** Defining what the current development cycle includes, like core features, functionalities, and integrations <u>14</u>.
- **Design:** Describing how the product will align with the brand. Include information for dimensions, weight, colors, packaging, and presentation. You can also list out some branding adjectives like modern, durable, sleek, etc <u>14</u>. These design specifications must align with Ford's brand guidelines, including visual identity elements like the Ford Oval and Ford Blue color palette <u>15</u>. Technical guidelines for the new look and style framework can be found in the online Ford Look and Style Arena <u>16</u>.
- **Technical Requirements:** Explaining any distinct features to prioritize along with technical requirements. The technical requirements should include the feature functionality, specifications, expected behavior, and information about the sensors, actuators, and other technical aspects <u>14</u>.
- Environmental and Safety Requirements: Explaining the expected operating conditions and regulatory standards it should meet 14. Ford also has customer-specific requirements that suppliers must adhere to 21 22 23 20. These requirements cover various aspects of quality, design, and manufacturing, and are essential for ensuring that Ford vehicles meet the company's high

standards <u>17 21</u>. Ford requires all manufacturing sites to report all materials per WSS-M99P999-A1, as noted in PPAP (Production Part Approval Process) <u>20</u>.

- User Stories and Scenarios: Including sections for user stories to provide context on how end-users will interact with the product. This helps in creating a user-centric development approach 12.
- Acceptance Criteria: Defining what success looks like for each feature helps in evaluating the final product. This section should detail the conditions under which a feature is considered complete 12.

Additional elements to consider incorporating into a Ford vehicle design PRD are:

- Change History: Describing each important change to the PRD, including who changed it, when they changed it, and what they changed <u>1</u>.
- **Messaging:** Specifying what the product messaging marketing will use to describe this product to customers, both new and existing <u>1</u>.
- **Personas:** Identifying who are the target personas for this product, and which is the key persona <u>1</u>.
- Features Out: Explicitly stating what has been decided not to do and why
   1.
- Open Issues: Listing what factors still need to be figured out  $\underline{1}$ .
- **Q&A:** Noting common questions about the product along with the answers you've decided <u>1</u>.
- Other Considerations: This is a catch-all for anything else, such as if you make a key decision to remove or add to the project's scope 1.
- Special Characteristics: Ford designates certain parts as "Control Item Parts," identified on drawings and specifications with an inverted delta symbol 21. Special Characteristics and control approach are traceable from the DFMEA through the PFMEA and the SCCAF to the Control Plan and recorded in the APQP/PPAP Evidence Workbook 23.
- FMEA (Failure Mode and Effects Analysis): Suppliers must prepare documented process FMEAs for all Ford parts they manufacture 21. If the supplier is responsible for the design, they must also prepare design FMEAs 21. Ford may require approval of FMEAs and control plans for any part from any supplier 21.
- Control Plans: All Ford parts must have control plans (or Dynamic Control Plans if required by Powertrain) 23.

Ford integrates customer feedback into vehicle design and product development through various methods, which should be reflected in the PRD 27:

- Market Research: Ford conducts market research online and in person, refining and creating new data-gathering processes that influence product development and marketing campaigns 27.
- **Customer Immersion Events:** Ford designers participate in customer immersion events, spending time with customers in their homes to understand how they use their vehicles <u>27</u>.
- Focus Groups and Questionnaires: Ford uses consumer questionnaires and invites customers to open discussions with researchers in focus groups to understand how far to push design concepts and unique features <u>27</u>.
- "Always On" Team: Ford has an "Always On" team that monitors social media for customer suggestions, compliments, and complaints 28 29.

- In-Vehicle Feedback Tool: Ford has introduced a "Record Feedback" feature in select vehicles, allowing customers to provide a 45-second voice message directly to engineers via the infotainment touchscreen 30 29 28.
- **Data Analysis:** Ford analyzes and interprets consumer feedback to improve not just styling but also function <u>27</u>.

By incorporating these elements, a PRD for Ford vehicle design can serve as a comprehensive guide for the design team, ensuring that the final product meets the needs of customers, aligns with Ford's brand standards, and complies with all relevant technical and regulatory requirements 26 18 17.

## General Structure of a PRD

A Product Requirements Document (PRD) generally follows a well-defined structure, ensuring comprehensive coverage of all critical aspects of the product  $\underline{4}$ . For Ford, this structure helps align vehicle design with brand standards, customer needs, and technical specifications. The typical structure includes the following sections:

- **Title Section:** This section contains essential project details, including the project title or code, the names of the responsible manager(s), the date of creation, and the document version number <u>4</u>. For Ford, the project title might reflect the specific vehicle model or feature being developed.
- Introduction: The introduction provides background information and context for the project 4. It defines the problem that the product aims to solve or the user needs that it addresses 4. This section should provide sufficient context for stakeholders to understand the project's purpose and scope.
- **Objectives:** This section states the vision, goals, and product positioning 4. Objectives should be specific, measurable, achievable, relevant, and timebound (SMART). For Ford, objectives might include targets for market share, customer satisfaction, and revenue. A well-defined objective for your product provides a North Star for the entire project, guiding decision-making and making sure everyone is aligned on the product's purpose 14.
- Stakeholders: This section identifies all relevant parties involved in the project <u>4</u>. Stakeholders can include users, purchasers, manufacturers, customer service, marketing & sales teams, external partners, regulatory bodies, and retailers <u>4</u>. Identifying stakeholders early on helps ensure that their needs and expectations are considered throughout the development process.
- **Use Cases:** This section describes user stories <u>4</u>. Use cases illustrate how users will interact with the product to achieve specific goals. They provide a detailed, real-world perspective on the product's functionality. For Ford, use cases might describe how a driver uses a new infotainment system or how a passenger interacts with advanced safety features.
- Aspects: This section covers various aspects of the product, including hardware, software, design, user experience, interactivity, customization, manufacturing, and regulatory considerations 4. It addresses the technical and practical requirements for bringing the product to market. For Ford, "aspects" also covers the integration of customer feedback into vehicle design and product development through various methods like market research, customer immersion events, focus groups and questionnaires, social media monitoring via an "Always"

On" team, and in-vehicle feedback tools <u>27 30 28</u>. This feedback is analyzed and used to refine vehicle styling and functionality <u>27</u>.

● Additional Sections: Other sections can be included to provide further details and context. These may include open questions, future work, milestones, resources, appendices, and a glossary to explain technical terms 4. For Ford, appendices might include detailed technical specifications, regulatory compliance documents, or customer feedback reports. Additionally, the PRD may contain sections detailing Special Characteristics, FMEA (Failure Mode and Effects Analysis), and Control Plans, ensuring alignment with Ford's customer-specific requirements 21 23 20.

# **Automobile Design PRD Template**

An automobile design PRD template provides a structured framework for guiding the development of new automotive products, ensuring alignment among all stakeholders 12 13.

## **Key Components:**

- **Product Overview:** The product overview should provide the product and project name, project manager, version number, and other essential identifying information <u>14</u>.
- **Purpose:** This section should define the product's objectives, clarifying its intended function and the problem it aims to solve for the user 14 2.
- **Objectives:** Clearly articulated objectives act as a North Star for the entire project, guiding decision-making and ensuring alignment on the product's purpose 14.
- **Success Metrics:** This section should define clear Key Performance Indicators (KPIs) that enable the project team to measure the product's success in meeting internal goals <u>14</u>.
- **Features:** The features section should outline the primary features of the vehicle, detailing how each feature will improve the user experience. It should also include any product compatibility notes, specifying how the product integrates with other products in the Ford ecosystem <u>14</u>.
- **Scope:** This section should define the boundaries of the current development cycle, including core features, functionalities, and integrations that are included in this release 14.
- **Design:** This section should outline how the vehicle's design aligns with the Ford brand, including information on dimensions, weight, colors, packaging, and presentation. It can also include a list of branding adjectives, such as "modern," "durable," and "sleek" <u>14</u>. The design specifications must align with Ford's brand guidelines, including visual identity elements such as the Ford Oval and the Ford Blue color palette <u>15</u>. Ford's design language, kinetic design, brings a new look of power and purpose to the whole range <u>16</u>. Technical guidelines for the new look and style framework can be found in the online Ford Look and Style Arena <u>16</u>.
- Technical Requirements: This section should explain any distinct features to prioritize, along with detailed technical requirements. The technical requirements should include feature functionality, specifications, expected

behavior, and information about the sensors, actuators, and other technical aspects of the vehicle <u>14</u>.

- Environmental and Safety Requirements: This section should outline the expected operating conditions for the vehicle, as well as the environmental and regulatory standards it is expected to meet 14. Suppliers must also adhere to Ford's customer-specific requirements 21 22 23 23 20, covering various aspects of quality, design, and manufacturing 17 21.
- Release Criteria: This section should set the goals and standards for the release of the vehicle 2. Release criteria should be defined in terms of:
  - $\bigcirc$  Functionality: Define the minimum functionality required to achieve the purpose of the vehicle and justify its release  $\underline{2}$ .
  - $\bigcirc$  Usability: Ensure that the vehicle and its features are easy to use  $\underline{2}$ .
  - O Reliability: Demonstrate that the vehicle is reliable under typical operating conditions 2.
  - O Performance: Establish a baseline for vehicle performance metrics, such as acceleration, braking, and fuel efficiency <u>2</u>.
  - O Supportability: Confirm that the released vehicle can be adequately supported with maintenance, parts, and service 2.
- **Timeline:** This section provides an estimated timeline for the vehicle's development and release, including key milestones and deadlines <u>2</u>.
- **Stakeholders:** This section should identify all relevant stakeholders, including users, purchasers, manufacturers, customer service, marketing & sales teams, external partners, regulatory bodies, and retailers <u>4</u>.
- User Stories and Scenarios: This section should include user stories to provide context on how end-users will interact with the vehicle and its features, ensuring a user-centric development approach 12.
- Acceptance Criteria: Defining clear acceptance criteria for each feature helps in evaluating the final product. This section should detail the conditions under which a feature is considered complete and ready for release 12.

#### **Additional Elements:**

- Change History: This section should describe each important change made to the PRD, including who made the change, when it was made, and what was changed 1.
- **Product Messaging:** This section should specify how the marketing team will describe the vehicle to both new and existing customers 1.
- Target Personas: This section should identify the target personas for the vehicle, highlighting the key persona that the vehicle is designed to appeal to 1.
- Features Excluded: This section should explicitly state which features have been deliberately excluded from the vehicle and the rationale for their exclusion 1.
- Open Issues: This section should list any outstanding issues or factors that still need to be resolved during the development process 1.
- Q&A: This section should note common questions about the vehicle, along with the approved answers 1.
- Other Considerations: This section can be used to capture any other relevant information, such as key decisions to remove or add to the project's scope 1.

- Special Characteristics: Ford designates certain parts as "Control Item Parts," identified on drawings and specifications with an inverted delta symbol 21. Special Characteristics and control approach are traceable from the DFMEA through the PFMEA and the SCCAF to the Control Plan and recorded in the APQP/PPAP Evidence Workbook 23. Ford requires all manufacturing sites to report all materials per WSS-M99P9999-A1, as noted in PPAP (Production Part Approval Process) 20.
- FMEA (Failure Mode and Effects Analysis): Suppliers must prepare documented process FMEAs for all Ford parts they manufacture 21. If the supplier is responsible for the design, they must also prepare design FMEAs 21. Ford may require approval of FMEAs and control plans for any part from any supplier 21.
- **Control Plans:** All Ford parts must have control plans (or Dynamic Control Plans if required by Powertrain) <u>23</u>.

### **Integration of Customer Feedback:**

The PRD should detail how Ford integrates customer feedback into the vehicle design process <u>27</u>:

- Market Research: Ford conducts market research online and in person to gather data on trends and customer preferences <u>27</u>.
- Customer Immersion Events: Ford designers participate in customer immersion events, spending time with customers in their homes to understand how they use their vehicles 27.
- Focus Groups and Questionnaires: Ford utilizes focus groups and questionnaires to gather customer input on design concepts and unique features 27.
- "Always On" Team: Ford has an "Always On" team that monitors social media for customer suggestions, compliments, and complaints 28 29.
- In-Vehicle Feedback Tool: Ford has introduced a "Record Feedback" feature in select vehicles, allowing customers to provide direct voice feedback to engineers via the infotainment touchscreen 30 29 28.
- **Data Analysis:** Ford analyzes and interprets consumer feedback to improve not just styling but also function <u>27</u>.

By incorporating these elements, an automobile design PRD template for Ford can serve as a comprehensive guide throughout the design process, ensuring the final product aligns with customer needs, brand standards, and all relevant technical and regulatory requirements 26 18 17.

# **Ford's Vehicle Design Process**

Ford's vehicle design process is where creativity and engineering converge, representing a systematic approach to new vehicle development 17. This multi-stage process involves collaborative efforts from various teams 17 18. Ford utilizes the Global Product Development System (GPDS), which integrates designers, engineers, and other key functions throughout the design process 17. The GPDS allows Ford to simulate every aspect of a vehicle before prototyping, helping to identify and rectify potential design flaws efficiently 17. A PRD for this process would include sections for target audience, feature specifications, design considerations, testing and validation plans, and manufacturing considerations 17.

The key steps in Ford's vehicle design process include:

- 1. **Research and Idea Generation:** This initial stage involves thorough market research to understand customer needs, preferences, and emerging trends 17 19. The goal is to identify what makes a car both appealing and functional 17. Market research includes online and in-person surveys, helping Ford refine and create new data-gathering processes that influence product development and marketing campaigns 27. Specifically, Ford engages consumers through moderated clinics and one-on-one interviews before vehicles reach the market and monitors online consumer comments on auto sites, chat rooms, and blogs 27.
- 2. **Concept Development:** Designers create initial sketches and digital models, focusing on the vehicle's overall shape, colors, and aesthetic appeal 17. The Design Studio generates ideas using specialized software. The most promising concepts are then developed further using clay models and Computer-Aided Design (CAD) 18. Ford's seven design studios worldwide are interconnected, enabling engineers to construct virtual 3D prototypes using a system called C3P 18. Ford's design language, known as kinetic design, aims to bring a new look of power and purpose to its vehicle range 16.
- 3. **Prototyping:** Prototypes, which are early-stage versions of the vehicle, are constructed to test the feasibility and effectiveness of design concepts <u>17</u>. Designers collaborate with component, system, and production engineers to simultaneously develop and produce a one-off prototype reflecting the final design <u>18</u>.
- 4. **Testing:** The prototypes undergo rigorous testing to assess safety, performance, and durability <u>17</u>. This includes durability testing on various road surfaces and in extreme weather conditions, safety testing using crash test dummies, and performance testing to evaluate acceleration, braking, and handling 17.
- 5. **Production:** Once testing is complete and the design is validated, the vehicle moves into the production phase <u>17</u>. Advanced manufacturing technologies are employed in factories to ensure precision and quality in the final product <u>17</u>.

The design process involves a multi-disciplinary team, with specialists from Marketing, Research and Development (R&D), Design, Component and System Engineering, and Manufacturing 18. These functions work concurrently on different facets of the product 18. The Programme Office coordinates this comprehensive effort and oversees overall product planning 18.

Ford also integrates customer feedback into the vehicle design process. Ford designers participate in customer immersion events, spending time with customers in their homes to understand how they use their vehicles 27. Ford uses consumer questionnaires and invites customers to open discussions with researchers in focus groups to understand how far to push design concepts and unique features 27. Ford has an "Always On" team that monitors social media for customer suggestions, compliments, and complaints 28 29. Ford has introduced a "Record Feedback" feature in select vehicles, allowing customers to provide a 45-second voice message directly to engineers via the infotainment touchscreen 30 29 28. Ford analyzes and interprets consumer feedback to improve not just styling but also function 27.

The PRD must also account for Ford's specific requirements for suppliers <u>21 22 23 23 20</u>. These requirements cover aspects of quality, design and manufacturing, and are crucial for ensuring that vehicles meet Ford's standards <u>17 21</u>.

- Special Characteristics: Ford designates certain parts as "Control Item Parts," identified on drawings and specifications with an inverted delta symbol 21. Special Characteristics and control approach are traceable from the DFMEA through the PFMEA and the SCCAF to the Control Plan and recorded in the APQP/PPAP Evidence Workbook 23. Ford requires all manufacturing sites to report all materials per WSS-M99P9999-A1, as noted in PPAP (Production Part Approval Process) 20.
- FMEA (Failure Mode and Effects Analysis): Suppliers must prepare documented process FMEAs for all Ford parts they manufacture 21. If the supplier is responsible for the design, they must also prepare design FMEAs 21. Ford may require approval of FMEAs and control plans for any part from any supplier 21.
- Control Plans: All Ford parts must have control plans (or Dynamic Control Plans if required by Powertrain) 23.

Ford's customer-focused design ensures that vehicle designs are compliant with safety standards through a collaborative approach 17. Ford balances innovative vehicle design with production feasibility by employing a collaborative approach through its Global Product Development System (GPDS) 17. Ford uses customer feedback to improve the design and functionality of its vehicles 19 24. In addition, clay modeling and digital modeling are used to create exterior designs 25 19.

By adhering to a structured design process and carefully considering all requirements, Ford creates vehicles that meet the demands of the market and the needs of its customers 26 18 17.

# **Ford-Specific Requirements for Suppliers**

Ford Motor Company has specific requirements that suppliers must adhere to, ensuring that all components and systems meet Ford's stringent quality and performance standards 78. These requirements are crucial for maintaining the quality and reliability of Ford vehicles 1721.

**Quality Management Systems and Standards:** Suppliers must meet specific quality management system requirements as dictated by Ford <u>78</u>. These standards encompass various aspects of production and design to ensure consistent quality <u>1721</u>.

**Production Part Approval Process (PPAP):** Ford mandates that suppliers comply with a rigorous Production Part Approval Process (PPAP) <u>7</u> <u>8</u>. This process ensures that the supplier can consistently produce parts that meet all specified requirements. Ford requires all manufacturing sites to report all materials per WSS-M99P9999-A1, as noted in PPAP (Production Part Approval Process) <u>20</u>.

**Special Characteristics Communication and Agreement Form (SCCAF):** Ford requires the use of a Special Characteristics Communication and Agreement Form (SCCAF) to document special characteristics, including where they are controlled at sub-tier suppliers 7. This form is critical for identifying and controlling critical features of parts and components 21. Special Characteristics and control approach are traceable from the DFMEA through the PFMEA and the SCCAF to the Control Plan and recorded in the APQP/PPAP Evidence Workbook 23. Ford designates certain parts as "Control Item Parts," identified on drawings and specifications with an inverted delta symbol 21.

**Failure Mode and Effects Analysis (FMEA):** Suppliers must prepare documented process FMEAs for all Ford parts they manufacture <u>21</u>. If the supplier is responsible for the design, they must also prepare design FMEAs <u>21</u>. Ford may require approval of FMEAs and control plans for any part from any supplier <u>21</u>.

**Control Plans:** All Ford parts must have control plans (or Dynamic Control Plans if required by Powertrain) 23.

**Engineering Specifications:** It's critical to ensure that the PRD reflects and incorporates these supplier-specific requirements to facilitate a seamless transition from design to manufacturing, ensuring compliance and high product quality <u>20 21 23</u>.

By adhering to these requirements, suppliers contribute to the overall quality and reliability of Ford vehicles, which is paramount for maintaining customer satisfaction and brand reputation 26 18 17.

# **Ford Design Language Guidelines**

Ford Motor Company's design language guidelines ensure a consistent brand experience across all customer interactions  $\underline{15}$   $\underline{16}$ . These guidelines cover visual elements, tone of voice, and core brand attributes  $\underline{16}$   $\underline{15}$ .

**Visual Identity:** Ford's visual identity relies on consistent use of specific elements <u>15</u>:

- Ford Oval: The Ford Oval serves as the primary corporate trademark <u>15</u>. It should be prominently displayed and not obscured <u>15</u>. The design team should avoid altering its color or using it to form a word <u>15</u>.
- Ford Signature: Use the Ford Signature where trust matters most <u>15</u>.
- **Color Palette:** Ford Blue is a core element for brand recognition <u>15</u>. The extended color palette includes Ford Twilight and Ford Grabber <u>15</u>. Using Ford Blue when possible strengthens brand recognition <u>15</u>.
- **Typography:** Ford Antenna is the designated brand font and should be used in all materials 15.

**Tone of Voice:** Ford's tone of voice balances friendly familiarity with respect <u>16</u>. It should be warm, accessible, and invite consumers into a partnership-like dialogue <u>16</u>. The design team must ensure that the communication style used in the vehicle's interface and marketing materials reflects this tone.

**Brand Essence:** Ford's brand essence originates from "DCDQ" (Dependable, Contemporary, Driving Quality) <u>16</u>. This essence should be evident in all aspects of the vehicle's design, reflecting Ford's commitment to these principles.

**Kinetic Design:** Ford's kinetic design language infuses its vehicles with a sense of power and purpose <u>16</u>. This design philosophy should guide the vehicle's overall aesthetic, creating a visually dynamic and engaging product.

Ford emphasizes consistency in branding, expressing the brand in Ford Bold, with subbrands in Ford Light <u>16</u>. Technical guidelines for the new look and style framework can be found in the online Ford Look and Style Arena <u>16</u>.

For access to Ford's brand assets, logos, fonts, and templates, the design team should utilize the Ford Dealer Toolbox  $\underline{15}$ . For specific questions or clarifications, the design team can contact the brand team directly  $\underline{15}$ .

It is critical to note that, while the Ford Look and Style Arena is mentioned as a source of technical guidelines <u>16</u>, specific information regarding access to this resource is not available in the provided data. Access procedures and credentials for the Ford Look and

Style Arena should be verified with the appropriate Ford brand or design management teams.

# **Integrating Customer Feedback in Vehicle Design**

Ford Motor Company integrates customer feedback into its vehicle design process through a multifaceted approach, ensuring that vehicles are aligned with customer needs and preferences <u>27</u>. This integration spans various stages of product development, from initial market research to in-vehicle feedback mechanisms <u>27 30 28</u>. The key methods employed by Ford include:

- Market Research: Ford conducts extensive market research both online and in person <u>27</u>. The company continuously refines and creates new datagathering processes to inform product development and marketing campaigns <u>27</u>. This involves engaging consumers through moderated clinics and one-on-one interviews before vehicles reach the market <u>27</u>. Ford also monitors online consumer comments on automotive sites, chat rooms, and blogs to capture a broad spectrum of opinions and suggestions <u>27</u>.
- Customer Immersion Events: Ford designers actively participate in customer immersion events, spending time with customers in their homes and daily environments to gain a deep understanding of how they use their vehicles 27. This firsthand observation allows designers to identify unmet needs and pain points, informing design decisions that better align with real-world usage scenarios 27.
- Focus Groups and Questionnaires: Ford utilizes consumer questionnaires and invites customers to participate in open discussions with researchers in focus groups 27. These sessions are designed to gauge customer sentiment regarding design concepts and unique features, helping Ford determine how far to push the boundaries of innovation while maintaining user acceptance 27.
- "Always On" Team: Ford employs an "Always On" team dedicated to monitoring social media channels for customer suggestions, compliments, and complaints 28 29. This proactive monitoring enables Ford to identify emerging issues and trends in real-time, allowing for swift responses and adjustments to product development plans 28 29. The "Always On" team is also capable of resolving certain customer issues through over-the-air (OTA) software updates, providing a direct and efficient solution to address customer concerns 29 28.
- In-Vehicle Feedback Tool: Ford has introduced an innovative "Record Feedback" feature in select vehicles, allowing customers to provide direct voice feedback to engineers via the infotainment touchscreen 30 29 28. This feature enables customers to record a 45-second voice message detailing their experiences, suggestions, or complaints while actively using the vehicle 30 29 28. This real-time feedback mechanism allows engineers to receive direct input from customers and rapidly apply it through OTA updates or in-plant modifications 30 31.
- **Data Analysis:** Ford employs sophisticated data analysis techniques to interpret consumer feedback and extract actionable insights <u>27</u>. This analysis goes beyond mere styling preferences, extending to functional aspects of vehicle design <u>27</u>. By leveraging data-driven insights and analytics, Ford gains a deeper

understanding of customer behavior and preferences, enabling personalized interactions, trend forecasting, and optimized CRM strategies <u>27 32</u>.

The integration of customer feedback is a continuous process that aims to enhance both current and future vehicle designs <u>27</u>. Ford leverages this feedback to address quality and satisfaction concerns, as well as to identify and implement technologies that meet evolving customer needs and expectations <u>27 33 34</u>. This commitment to customercentric design ensures that Ford vehicles remain competitive and relevant in a rapidly changing automotive landscape <u>27</u>.

While the "Record Feedback" feature offers a significant advancement in gathering direct customer input, careful consideration should be given to managing the volume and variety of feedback received. Effective data processing and analysis techniques are essential to prioritize and address the most critical issues and opportunities for improvement. Additionally, ensuring customer privacy and data security in the collection and storage of voice feedback is paramount.

# **Key Elements of a Ford Vehicle Design PRD**

A Product Requirements Document (PRD) is a crucial communication tool for product managers, defining the intent, target users, and benefits of a product throughout its development, launch, and marketing phases 1. It serves as a guide for both business and technical teams 1. A PRD template for automobile design teams, such as Ford's, offers a structured framework that guides the development of new automotive products 12 [13] (https://www.meegle.com/en\_us/advanced-templates/automotive\_industry/automotive\_product\_development\_template].

Key elements typically included in a PRD are purpose, features, release criteria, timeline, and stakeholder review 2. For Ford, these elements should be aligned with brand standards, customer needs, and technical requirements.

- Purpose: This defines who the product is for and why it's being built 2. It should outline what problems the product solves, who will use it, and how it will provide value to customers 2. Specifically, for an automobile design PRD, the "purpose" should define the product's objectives, including what it will do and what problem it aims to solve 14 2. A well-defined objective for your product provides a North Star for the entire project, guiding decision-making and making sure everyone is aligned on the product's purpose 14.
- Features: This outlines what features the product will have [2] (https://www.perforce.com/blog/alm/how-write-product-requirements-document-prd]. Detailed descriptions of all required features and functionalities should be included, specifying what the product should do 3. When creating an automobile design PRD template, it's important to outline the primary features and be specific about how they will make things easier or better for the user, including any product compatibility notes, including how it works with other products in an ecosystem 14.
- Release Criteria: This sets the goals and standards for the release 2. When creating an automobile design PRD template, set the goals and standards for the release criteria 2:
  - $\bigcirc$  Functionality: Define the minimum functionality needed to achieve the purpose and release the product  $\underline{2}$ .
  - O Usability: Ensure the product is easy to use  $\underline{2}$ .

- O Reliability: Determine that your product is reliable <u>2</u>.
- O Performance: Set a baseline for performance <u>2</u>.
- O Supportability: Determine that the release can be supported  $\underline{2}$ .
- **Timeline:** This provides an estimated timeline for the product's development and release 2.
- Stakeholder Review: This ensures all key stakeholders review and approve the document <u>2</u>. When creating an automobile design PRD template, identify users, purchasers, manufacturers, customer service, marketing & sales, external partners, regulatory instances, retailers, etc <u>4</u>.

In addition to these core elements, a PRD for Ford vehicle design should incorporate several other key components:

- **Product Overview:** Including the product and project name, project manager, version, and other essential information <u>14</u>.
- Success Metrics: Defining clear Key Performance Indicators (KPIs) to ensure the product meets your internal goals for the project <u>14</u>.
- **Scope:** Defining what the current development cycle includes, like core features, functionalities, and integrations <u>14</u>.
- **Design:** Describing how the product will align with the brand. Include information for dimensions, weight, colors, packaging, and presentation. You can also list out some branding adjectives like modern, durable, sleek, etc <u>14</u>. These design specifications must align with Ford's brand guidelines, including visual identity elements like the Ford Oval and Ford Blue color palette <u>15</u>. Technical guidelines for the new look and style framework can be found in the online Ford Look and Style Arena <u>16</u>.
- **Technical Requirements:** Explaining any distinct features to prioritize along with technical requirements. The technical requirements should include the feature functionality, specifications, expected behavior, and information about the sensors, actuators, and other technical aspects <u>14</u>.
- Environmental and Safety Requirements: Explaining the expected operating conditions and regulatory standards it should meet 14. Ford also has customer-specific requirements that suppliers must adhere to 21 22 23 23 20. These requirements cover various aspects of quality, design, and manufacturing, and are essential for ensuring that Ford vehicles meet the company's high standards 17 21. Ford requires all manufacturing sites to report all materials per WSS-M99P9999-A1, as noted in PPAP (Production Part Approval Process) 20.
- User Stories and Scenarios: Including sections for user stories to provide context on how end-users will interact with the product. This helps in creating a user-centric development approach 12.
- Acceptance Criteria: Defining what success looks like for each feature helps in evaluating the final product. This section should detail the conditions under which a feature is considered complete 12.

Additional elements to consider incorporating into a Ford vehicle design PRD are:

- Change History: Describing each important change to the PRD, including who changed it, when they changed it, and what they changed <u>1</u>.
- **Messaging:** Specifying what the product messaging marketing will use to describe this product to customers, both new and existing <u>1</u>.

- Personas: Identifying who are the target personas for this product, and which is the key persona 1.
- Features Out: Explicitly stating what has been decided not to do and why
   1.
- Open Issues: Listing what factors still need to be figured out 1.
- **Q&A:** Noting common questions about the product along with the answers you've decided <u>1</u>.
- Other Considerations: This is a catch-all for anything else, such as if you make a key decision to remove or add to the project's scope 1.
- Special Characteristics: Ford designates certain parts as "Control Item Parts," identified on drawings and specifications with an inverted delta symbol 21. Special Characteristics and control approach are traceable from the DFMEA through the PFMEA and the SCCAF to the Control Plan and recorded in the APQP/PPAP Evidence Workbook 23.
- FMEA (Failure Mode and Effects Analysis): Suppliers must prepare documented process FMEAs for all Ford parts they manufacture 21. If the supplier is responsible for the design, they must also prepare design FMEAs 21. Ford may require approval of FMEAs and control plans for any part from any supplier 21.
- Control Plans: All Ford parts must have control plans (or Dynamic Control Plans if required by Powertrain) 23. Ford requires all manufacturing sites to report all materials per WSS-M99P9999-A1, as noted in PPAP (Production Part Approval Process) 20.

Ford integrates customer feedback into vehicle design and product development through various methods, which should be reflected in the PRD <u>27</u>:

- Market Research: Ford conducts market research online and in person, refining and creating new data-gathering processes that influence product development and marketing campaigns 27.
- Customer Immersion Events: Ford designers participate in customer immersion events, spending time with customers in their homes to understand how they use their vehicles <u>27</u>.
- Focus Groups and Questionnaires: Ford uses consumer questionnaires and invites customers to open discussions with researchers in focus groups to understand how far to push design concepts and unique features <u>27</u>.
- "Always On" Team: Ford has an "Always On" team that monitors social media for customer suggestions, compliments, and complaints 28 29.
- In-Vehicle Feedback Tool: Ford has introduced a "Record Feedback" feature in select vehicles, allowing customers to provide a 45-second voice message directly to engineers via the infotainment touchscreen 30 29 28.
- **Data Analysis:** Ford analyzes and interprets consumer feedback to improve not just styling but also function <u>27</u>.

By incorporating these elements, a PRD for Ford vehicle design can serve as a comprehensive guide for the design team, ensuring that the final product meets the needs of customers, aligns with Ford's brand standards, and complies with all relevant technical and regulatory requirements 26 18 17.

# **Ford Specific Requirements**

Ford's customer-specific requirements are paramount to ensuring that all components and systems meet the company's stringent quality and performance standards 7 8 17 [21](https://elsmar.com/pdf\_files/Layered%20Process%20Audit%20Examples/

Ford%20customer%20specification%20requirements.pdf]. These requirements must be thoroughly integrated into the PRD to facilitate a seamless transition from design to manufacturing, ensuring compliance and high product quality 20 21 [23] (https://www.iatfglobaloversight.org/wp/wp-content/uploads/2024/02/Ford-IATF-CSR\_Jan-2024.pdf].

**Quality Management Systems:** Suppliers must meet specific quality management system requirements as dictated by Ford  $\underline{7}$   $\underline{8}$ . These standards encompass various aspects of production and design to ensure consistent quality  $\underline{17}$   $\underline{21}$ .

**Production Part Approval Process (PPAP):** Compliance with the Production Part Approval Process (PPAP) is mandatory for Ford suppliers 7.8. This process is designed to ensure that suppliers can consistently produce parts that meet all specified requirements 7.8. As part of PPAP, Ford requires all manufacturing sites to report all materials per WSS-M99P9999-A1 20.

Special Characteristics Communication and Agreement Form (SCCAF): The use of a Special Characteristics Communication and Agreement Form (SCCAF) is a key requirement  $\underline{7}$ . This form documents special characteristics and specifies where these characteristics are controlled, including at sub-tier suppliers  $\underline{7}$ . Special Characteristics and their control approach must be traceable from the DFMEA through the PFMEA and the SCCAF to the Control Plan, and recorded in the APQP/PPAP Evidence Workbook  $\underline{23}$ . Ford designates certain parts as "Control Item Parts," identified on drawings and specifications with an inverted delta symbol  $\underline{21}$ .

**Failure Mode and Effects Analysis (FMEA):** Suppliers are required to prepare and document process FMEAs for all Ford parts they manufacture <u>21</u>. If the supplier is also responsible for the design, they must prepare design FMEAs as well <u>21</u>. It's important to note that Ford may require approval of FMEAs and control plans for any part from any supplier 21.

**Control Plans:** Control plans (or Dynamic Control Plans if required by Powertrain) are mandatory for all Ford parts <u>23</u>.

**Engineering Specifications:** Engineering specifications must be clearly defined and incorporated into the PRD to ensure that suppliers understand and can meet Ford's requirements 20 21 23.

**Ford Design Language Guidelines:** Ford's design language guidelines ensure a consistent brand experience across all customer touchpoints <u>15 16</u>. These guidelines cover visual elements, tone of voice, and core brand attributes <u>16 15</u>. It is critical to adhere to the following:

- **Visual Identity:** Ford's visual identity relies on consistent use of specific elements <u>15</u>:
  - O **Ford Oval:** The Ford Oval serves as the primary corporate trademark <u>15</u>. It should be prominently displayed and not obscured <u>15</u>. The design team should avoid altering its color or using it to form a word <u>15</u>.
  - O **Ford Signature:** Use the Ford Signature where trust matters most <u>15</u>.

- O **Color Palette:** Ford Blue is a core element for brand recognition <u>15</u>. The extended color palette includes Ford Twilight and Ford Grabber <u>15</u>. Using Ford Blue when possible strengthens brand recognition <u>15</u>.
- O **Typography:** Ford Antenna is the designated brand font and should be used in all materials 15.
- Tone of Voice: Ford's tone of voice balances friendly familiarity with respect 16. It should be warm, accessible, and invite consumers into a partnership-like dialogue 16. The design team must ensure that the communication style used in the vehicle's interface and marketing materials reflects this tone.
- **Brand Essence:** Ford's brand essence originates from "DCDQ" (Dependable, Contemporary, Driving Quality) 16. This essence should be evident in all aspects of the vehicle's design, reflecting Ford's commitment to these principles.
- **Kinetic Design:** Ford's kinetic design language infuses its vehicles with a sense of power and purpose <u>16</u>. This design philosophy should guide the vehicle's overall aesthetic, creating a visually dynamic and engaging product.

Ford emphasizes consistency in branding, expressing the brand in Ford Bold, with subbrands in Ford Light 16. Technical guidelines for the new look and style framework can be found in the online Ford Look and Style Arena 16. For access to Ford's brand assets, logos, fonts, and templates, the design team should utilize the Ford Dealer Toolbox 15. For specific questions or clarifications, the design team can contact the brand team directly 15.

**Integration of Customer Feedback:** Ford integrates customer feedback into vehicle design and product development through various methods, which should be reflected in the PRD <u>27</u>:

- Market Research: Ford conducts market research online and in person to gather data on trends and customer preferences <u>27</u>.
- Customer Immersion Events: Ford designers participate in customer immersion events, spending time with customers in their homes to understand how they use their vehicles <u>27</u>.
- Focus Groups and Questionnaires: Ford utilizes focus groups and questionnaires to gather customer input on design concepts and unique features 27.
- "Always On" Team: Ford has an "Always On" team that monitors social media for customer suggestions, compliments, and complaints 28 29.
- In-Vehicle Feedback Tool: Ford has introduced a "Record Feedback" feature in select vehicles, allowing customers to provide direct voice feedback to engineers via the infotainment touchscreen 30 29 28.
- **Data Analysis:** Ford analyzes and interprets consumer feedback to improve not just styling but also function <u>27</u>.

Adherence to these Ford-specific requirements ensures that suppliers contribute to the overall quality and reliability of Ford vehicles, which is critical for maintaining customer satisfaction and protecting the brand's reputation 26 18 17.

## Conclusion

In summary, developing a comprehensive Product Requirements Document (PRD) is crucial for Ford's new vehicle design process. This document serves as a central guide,

aligning business and technical teams and ensuring a cohesive approach from initial concept to final production  $\underline{1}$ . Key to this process is the inclusion of essential elements such as a clear statement of purpose, detailed feature specifications, well-defined release criteria, realistic timelines, and thorough stakeholder reviews  $\underline{2}$ . The PRD's structure should encompass a title section, introduction, objectives, stakeholder identification, use cases, and considerations for hardware, software, design, user experience, manufacturing, and regulatory compliance  $\underline{4}$ .

For Ford, strict adherence to customer-specific requirements is non-negotiable, emphasizing the importance of quality management systems and production part approval processes <u>78</u>. This includes the meticulous use of the Special Characteristics Communication and Agreement Form (SCCAF) <u>7</u>, documented process FMEAs for all Ford parts <u>21</u>, and robust control plans <u>23</u>. The integration of Ford's design language guidelines, ensuring consistency in visual identity elements such as the Ford Oval and Ford Blue color palette <u>15</u> and the brand's tone of voice <u>16</u>, is equally critical. The technical guidelines within the Ford Look and Style Arena <u>16</u> should be consulted, with access procedures verified with Ford's brand management teams.

Furthermore, customer feedback should be methodically incorporated throughout the design process 27. Ford's multifaceted approach, including market research, customer immersion events, focus groups, social media monitoring via an "Always On" team 28 29, and in-vehicle feedback tools 30 28, ensures that vehicle styling and functionality are continuously refined to meet customer expectations 27. Careful management and analysis of this feedback, especially from in-vehicle tools, are essential for prioritizing improvements and ensuring customer privacy 30 31. By meticulously addressing these Ford-specific requirements, design language guidelines, and customer feedback integration, the PRD becomes a dynamic instrument that facilitates the creation of innovative, market-relevant, and customer-centric vehicles 26 18 17.

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# Learnings

Ford new vehicle design process PRD example

While I can't provide a specific Ford New Vehicle Design Process Product Requirements Document (PRD) example due to confidentiality, I can offer a detailed overview of Ford's vehicle design process and key elements that would be found in a PRD.

Ford's Vehicle Design Process

The Ford vehicle design process is where creativity meets engineering 1. It's a multi-stage process that involves various teams working collaboratively 12. Ford uses a systematic approach to develop new vehicle models 1. This process involves several key steps to ensure each vehicle is innovative and practical 1. Ford employs the Global Product Development System (GPDS) 1. This system integrates designers, engineers, and other key functions in the design process 1. By employing the Global Product Development System (GPDS), Ford simulates every aspect of a vehicle before prototyping, which helps identify and rectify potential design flaws efficiently 1.

Here are the general steps involved in the Ford vehicle design process:

- 37. **Research and Idea Generation:** Ford starts with market research to understand customer needs and preferences, gathering data on trends  $\underline{1}$   $\underline{3}$ . This involves understanding what makes a car appealing and functional  $\underline{1}$ . They think about what makes a car appealing and functional  $\underline{1}$ .
- 38. **Concept Development:** Designers create sketches and digital models, considering the car's shape and colors <u>1</u>. The Design Studio produces ideas using software, and the best ideas are developed using clay models and Computer Aided Design (CAD) <u>2</u>. Ford's seven design studios worldwide are linked, allowing engineers to build virtual 3D prototypes using a system called C3P <u>2</u>.
- 39. **Prototyping:** Ford builds prototypes, which are early versions of the car used to test ideas <u>1</u>. Designers and component, system, and production engineers work simultaneously to develop and produce the vehicle prototype, a one-off version of the final design <u>2</u>.
- 40. **Testing:** Prototypes undergo rigorous testing to ensure safety and performance <u>1</u>. This includes durability testing on rough roads and in extreme weather, safety testing using crash test dummies, and performance testing to check acceleration, braking, and handling <u>1</u>.
- 41. **Production:** After testing, the vehicle goes into production, using advanced technology in factories to ensure precision <u>1</u>.

#### **Key Elements of a Product Requirements Document (PRD)**

A Product Requirements Document (PRD) is a comprehensive document that outlines the requirements for a new product or feature. While the exact format and content may vary, here are some common elements that would be included in a PRD for a Ford vehicle:

- Introduction: A brief overview of the vehicle, its purpose, and target audience.
- Goals and Objectives: What the vehicle is intended to achieve in terms of market share, customer satisfaction, and revenue.
- Target Audience: A detailed description of the intended customers, including their demographics, needs, and preferences 1.
- **Features:** A comprehensive list of features, including performance, safety, technology, and design elements <u>1</u>.
- **Requirements:** Detailed specifications for each feature, including functional, performance, and regulatory requirements 4 5 6.
- **Design Considerations:** Guidelines for the vehicle's design, including styling, ergonomics, and materials <u>3</u>1.
- **Testing and Validation:** Plans for testing and validating the vehicle's performance, safety, and reliability <u>1</u>.

- Manufacturing Considerations: Information on how the vehicle will be manufactured, including materials, processes, and equipment <u>1</u>.
- Timeline and Budget: A detailed timeline for the design and development process, as well as a budget for all activities.

#### **Ford Specific Requirements**

Ford also has customer-specific requirements that suppliers must adhere to  $\underline{5}$  7  $\underline{6}$  8  $\underline{4}$ . These requirements cover various aspects of quality, design, and manufacturing, and are essential for ensuring that Ford vehicles meet the company's high standards  $\underline{1}$  5.

- **Special Characteristics:** Ford designates certain parts as "Control Item Parts," identified on drawings and specifications with an inverted delta symbol <u>5</u>.
- FMEA (Failure Mode and Effects Analysis): Suppliers must prepare documented process FMEAs for all Ford parts they manufacture <u>5</u>. If the supplier is responsible for the design, they must also prepare design FMEAs <u>5</u>. Ford may require approval of FMEAs and control plans for any part from any supplier <u>5</u>.
- Control Plans: All Ford parts must have control plans (or Dynamic Control Plans if required by Powertrain) <u>6</u>.
- Engineering Specifications: Ford requires all manufacturing sites to report all materials per WSS-M99P9999-A1, as noted in PPAP (Production Part Approval Process) 4.
- Special Characteristic Traceability: Special Characteristics and control approach are traceable from the DFMEA through the PFMEA and the SCCAF to the Control Plan and recorded in the APQP/PPAP Evidence Workbook <u>6</u>.

#### **Design Process at Ford**

The design process at Ford involves a multi-disciplinary team including specialists from Marketing, Research and Development (R&D), Design, Component and System Engineering, and Manufacturing 2. These functions work simultaneously on different aspects of the product 2. The Programme Office coordinates this effort and oversees product planning 2.

#### **Examples of Ford's Design Considerations**

- **Customer-focused design:** Ford ensures its vehicle designs are customer-focused and compliant with safety standards through a collaborative approach <u>1</u>.
- Balancing innovation and feasibility: Ford balances innovative vehicle design with production feasibility by employing a collaborative approach through its Global Product Development System (GPDS) 1.
- **Incorporating feedback:** Ford uses customer feedback to improve the design and functionality of its vehicles <u>39</u>.
- Clay Modeling: Clay modeling is a tradition in car design <u>10</u>. Clay modellers work to create exterior designs <u>10</u>.
- **Digital Modeling:** The design of the new vehicle will be digitally created, using both animation and photography, which enables the designers to see the vehicle in a variety of real world scenarios and locations 3.

By following a structured design process and carefully considering all requirements, Ford can create vehicles that meet the needs of its customers and the demands of the market  $11\ 2\ 1$ .

Ford customer feedback integration in vehicle design PRD

Ford integrates customer feedback into vehicle design and product development through various methods:

- Market Research: Ford conducts market research online and in person, refining and creating new data-gathering processes that influence product development and marketing campaigns 1. They engage consumers through moderated clinics and one-on-one interviews before vehicles reach the market and also monitor online consumer comments on auto sites, chat rooms, and blogs 1.
- Customer Immersion Events: Ford designers participate in customer immersion events, spending time with customers in their homes to understand how they use their vehicles 1.
- Focus Groups and Questionnaires: Ford uses consumer questionnaires and invites customers to open discussions with researchers in focus groups to understand how far to push design concepts and unique features 1.
- "Always On" Team: Ford has an "Always On" team that monitors social media for customer suggestions, compliments, and complaints 2 3. This team can resolve certain customer issues by programming over-the-air (OTA) software updates 3 2.
- In-Vehicle Feedback Tool: Ford has introduced a "Record Feedback" feature in select vehicles, allowing customers to provide a 45-second voice message directly to engineers via the infotainment touchscreen 432. This feature is being rolled out to more models and allows engineers to receive real-time feedback and apply it quickly through OTA updates or in-plant modifications 54.
- **Data Analysis:** Ford analyzes and interprets consumer feedback to improve not just styling but also function <u>1</u>. They also use data-driven insights and analytics to understand customer behavior and preferences, personalize interactions, forecast trends, and optimize CRM strategies <u>6</u>.

Ford uses customer feedback to improve current and future vehicle designs, address quality and satisfaction concerns, and identify and implement technologies that meet customer needs and expectations  $\underline{7}$   $\underline{8}$ .

Ford Motor Company design language guidelines

Ford Motor Company's design language guidelines aim to create a consistent brand experience across all customer touchpoints  $\underline{12}$ . These guidelines cover various aspects, including visual elements, tone of voice, and brand assets  $\underline{21}$ .

Here's a summary of key aspects of Ford's design language guidelines:

- Visual Identity:
  - O **Ford Oval:** Use the Ford Oval correctly as the primary corporate trademark <u>1</u>. It should be prominent and not obscured <u>1</u>. Avoid recoloring it or using it to coin a word <u>1</u>.
  - $\bigcirc$  **Ford Signature:** Use the Ford Signature where trust matters most  $\underline{1}$ .
  - O **Color Palette:** Ford Blue is a key element for brand recognition <u>1</u>. Ford also uses Ford Twilight and Ford Grabber <u>1</u>. When possible, use Ford Blue for stronger brand recognition <u>1</u>.
  - O **Typography:** Use Ford Antenna as the brand font in all materials <u>1</u>.
- Tone of Voice: Ford's tone of voice combines friendly familiarity with respect 2. It should be warm and accessible, inviting the consumer to engage in a dialogue as partners 2.

- **Brand Essence:** The Ford Brand Essence starts from "DCDQ" (Dependable, Contemporary, Driving Quality) <u>2</u>.
- **Kinetic Design:** Ford's design language, kinetic design, brings a new look of power and purpose to the whole range  $\underline{2}$ .

Ford emphasizes consistency in its branding, ensuring that the brand is expressed in Ford Bold, with sub-brands in Ford Light 2. Technical guidelines for the new look and style framework can be found in the online Ford Look and Style Arena 2.

You can access Ford's brand assets, logos, fonts, and templates on the Ford Dealer Toolbox  $\underline{1}$ . For questions, you can contact the brand team  $\underline{1}$ .

Automobile design PRD template for design teams

A Product Requirements Document (PRD) template for automobile design teams is a structured framework that guides the development of new automotive products  $\underline{1}$  2. It serves as a blueprint, outlining the product's features, functionalities, and overall purpose, ensuring all stakeholders are aligned  $\underline{3}$  1.

### **Key Components of an Automobile Design PRD Template:**

- **Product Overview:** Include the product and project name, project manager, version, and other essential information <u>3</u>.
- **Purpose:** Define the product's objectives, including what it will do and what problem it aims to solve  $3 ext{ 4}$ .
- **Objectives**: A well-defined objective for your product provides a North Star for the entire project, guiding decision-making and making sure everyone is aligned on the product's purpose 3.
- Success Metrics: Define clear Key Performance Indicators (KPIs) to ensure the product meets your internal goals for the project <u>3</u>.
- Features: Outline the primary features and be specific about how they will make things easier or better for the user. Include any product compatibility notes, including how it works with other products in an ecosystem 3.
- **Scope:** Define what the current development cycle includes, like core features, functionalities, and integrations <u>3</u>.
- **Design:** Describe how the product will align with the brand. Include information for dimensions, weight, colors, packaging, and presentation. You can also list out some branding adjectives like modern, durable, sleek, etc <u>3</u>.
- **Technical Requirements:** Explain any distinct features to prioritize along with technical requirements. The technical requirements should include the feature functionality, specifications, expected behavior, and information about the sensors, actuators, and other technical aspects <u>3</u>.
- Environmental and Safety Requirements: Explain the expected operating conditions and regulatory standards it should meet <u>3</u>.
- lacktriangle Release Criteria: Set the goals and standards for the release criteria  $\underline{4}$ .
  - $\bigcirc$  Functionality: Define the minimum functionality needed to achieve the purpose and release the product  $\underline{4}$ .
  - O Usability: Ensure the product is easy to use  $\underline{4}$ .
  - O Reliability: Determine that your product is reliable 4.
  - $\bigcirc$  Performance: Set a baseline for performance  $\underline{4}$ .
  - O Supportability: Determine that the release can be supported  $\underline{4}$ .
- **Timeline:** Provide an estimated timeline for the product's development and release <u>4</u>.

- **Stakeholders:** Identify users, purchasers, manufacturers, customer service, marketing & sales, external partners, regulatory instances, retailers, etc <u>5</u>.
- User Stories and Scenarios: Include sections for user stories to provide context on how end-users will interact with the product. This helps in creating a user-centric development approach 1.
- Acceptance Criteria: Defining what success looks like for each feature helps in evaluating the final product. This section should detail the conditions under which a feature is considered complete 1.

#### **Additional Elements to Consider:**

- Change History: Describe each important change to the PRD, including who changed it, when they changed it, and what they changed <u>6</u>.
- **Messaging:** What's the product messaging marketing will use to describe this product to customers, both new and existing <u>6</u>?
- **Personas:** Who are the target personas for this product, and which is the key persona <u>6</u>?
- Features Out: What have you explicitly decided not to do and why 6.
- Open Issues: What factors do you still need to figure out 6?
- **Q&A:** What are common questions about the product along with the answers you've decided <u>6</u>?
- Other Considerations: This is a catch-all for anything else, such as if you make a key decision to remove or add to the project's scope <u>6</u>.

By using a well-structured PRD template, automobile design teams can streamline the development process, ensure compliance with industry standards and regulations, and ultimately create successful and innovative automotive products <u>3</u> <u>2</u>.

Ford Look and Style Arena access

Unfortunately, information about "Ford Look and Style Arena access" is not available in the provided search results. The search results do mention Ford Early Access 1, Ford accessories 2, Ford deals 3, and other topics related to Ford, but none of them directly address the specific phrase "Ford Look and Style Arena access."

Ford automotive PRD examples and templates

A Product Requirements Document (PRD) is a crucial tool for product managers to communicate what they intend to build, who the target users are, and the benefits it will offer them <u>1</u>. It serves as a guide for business and technical teams throughout the development, launch, and marketing phases <u>1</u>.

#### Key Elements of a PRD A PRD typically includes these elements 2:

- **Purpose:** Defines who the product is for and why it's being built  $\underline{2}$ . It should outline what problems the product solves, who will use it, and how it will provide value to customers 2.
- Features: Outlines what features the product will have <u>2</u>. Detailed descriptions of all required features and functionalities should be included, specifying what the product should do <u>3</u>.
- Release Criteria: Sets the goals and standards for the release 2.
- **Timeline:** Provides an estimated timeline for the product's development and release 2.
- **Stakeholder Review:** Ensures all key stakeholders review and approve the document 2.

**General Structure of a PRD** A PRD generally follows this structure <u>4</u>:

- Title Section: Includes the project title/code, responsible manager(s), date of creation, and document version  $\underline{4}$ .
- Introduction: Provides background information/context and defines the problem/user needs 4.
- **Objectives:** States the vision, goals, and product positioning <u>4</u>.
- **Stakeholders:** Lists users, purchasers, manufacturers, customer service, marketing & sales, external partners, regulatory instances, retailers, etc <u>4</u>.
- Use Cases: Describes user stories 4.
- **Aspects:** Covers hardware, software, design, user experience, interactivity, customization, manufacturing, and regulations <u>4</u>.
- Open Questions/Future Work 4.
- Milestones 4.
- Resources 4.
- Appendices  $\underline{4}$ .
- Glossary: Explains terms  $\underline{4}$ .

**PRD Templates and Examples** Here are some examples and templates that can be used 5:

- **Figma's PRD template:** A comprehensive option that integrates Figma designs, tables, and checklists <u>5</u>.
- Lenny Rachitsky's PRD template: A simple template suitable for experienced or small teams <u>5</u>.
- Intercom's PRD template: A lightweight template that enforces brevity, keeping the document under one page <u>5</u>.
- Notion's PRD templates: Offers flexible and customizable product requirements docs with elements like requirements template, product specs, feature specifications, and technical specs 3 6.
- **Product School's PRD template:** A sample product requirements document, validated by professional product leaders, is ideal for guiding product managers through the drafting process <u>1</u>.
- Formlabs PRD template: Includes a faux PRD for Apple AirPods Pro 4.

#### **Ford-Specific Requirements**

For companies supplying to Ford Motor Company, it's essential to adhere to Ford's customer-specific requirements  $\underline{7}$   $\underline{8}$ . These requirements cover quality management systems, production part approval processes, and other specific standards  $\underline{7}$   $\underline{8}$ . Ford also requires the use of a Special Characteristics Communication and Agreement Form (SCCAF) to document special characteristics, including where they are controlled at sub-tier suppliers  $\underline{7}$ .