

Design Thinking Project Workbook

Don't find customers for your product but find products for your customers

1. Team

Team Name: ChromaFit

Team Logo (if any): NA

Team Members:

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2. Problem/Opportunity Domain

Domain of Interest:

The skin tone and outfit matching system targets the fashion and retail industry, enhancing personalized shopping experiences for e-commerce platforms, in-store technologies like smart mirrors, and personal styling services. It offers personalized recommendations, boosts user engagement, and supports fashion influencers, designers, and beauty brands with AI-driven styling solutions.

Description of the Domain:

Key Elements:

- **Skin Tone Detection:** Accurate identification of diverse skin tones using image processing and AI.
- **Color Theory Application:** Matching clothing colors with skin tones for personalized recommendations.
- **User Interface:** An intuitive interface for user interaction and feedback.

Challenges:

- **Diverse Skin Tones:** Handling variations in lighting, undertones, and diverse skin shades.
- **Ethical Considerations:** Avoiding biases and ensuring inclusive in recommendations.
- **Data Quality:** High-quality, diverse datasets for training accurate models.

Opportunities :

- **Personalized Fashion:** Enhanced customer satisfaction and reduced return rates through tailored suggestions.
- **Virtual Try-On Integration:** Combining AR with AI for immersive shopping experiences.
- **Market Differentiation:** Innovative technology adoption can differentiate brands in the competitive fashion industry.

Why did you choose this domain?:

The domain was chosen due to a passion for technology and creativity, combined with significant market potential in the fashion-tech industry. It addresses the common problem of finding suitable clothing by offering personalized recommendations and promoting inclusivity. By celebrating diverse skin tones, it enhances user confidence and satisfaction, creating a more accessible and empowering shopping experience for all.

3. Problem/Opportunity Statement

Problem Statement:

Develop a system that effectively identifies users' skin tones and provides personalized outfit recommendations tailored to enhance their natural appearance

Problem Description:

The challenge is to develop an intelligent system that helps users find clothing that complements their skin tone. Many individuals struggle with choosing outfits that enhance their natural features, leading to frustration and dissatisfaction with their wardrobe choices. This issue is particularly prominent in the fashion and retail sectors, where personalized shopping experiences are increasingly demanded.

Context (When does the problem occur):

The problem arises in several situations:

- **Online Shopping:** Users struggle to choose outfits from vast options without trying them on.
- **Wardrobe Refresh:** Individuals updating their wardrobe may find it challenging to select complementary pieces.
- **Special Occasions:** Pressure to look good at events can lead to poor outfit choices.
- **Fashion Consultations:** Lack of personalized guidance can result in dissatisfaction with stylist recommendations.
- **Social Media Influence:** Users often have difficulty adapting trending styles to their unique skin tones.
- **Cultural Events:** Selecting attire that fits both cultural norms and personal skin tone can be challenging.

Alternatives (What does the customer do to fix the problem):

Customers currently use several methods to address outfit matching:

- **Personal Stylists:** Hiring professionals for tailored fashion advice.
- **Color Analysis Tools:** Utilizing online quizzes or guides, though often inconsistent.
- **Trial and Error:** Purchasing multiple items to try on at home, leading to returns.
- **Social Media Influence:** Seeking inspiration from influencers, which may not fit personal skin tones.
- **In-Store Assistance:** Relying on store employees for help, with varying results.
- **Fashion Apps:** Using apps for outfit suggestions, though lacking in skin tone analysis.

Customers (Who has the problem most often):

The primary groups affected by the problem include:

- **Fashion Consumers:** Individuals shopping for stylish clothing.
- **Event-Goers:** People preparing for special occasions like weddings or interviews.
- **Online Shoppers:** Consumers who struggle to choose outfits without trying them on.
- **Fashion Enthusiasts:** Users following trends but needing help with skin tone alignment.
- **Cultural Participants:** Individuals attending cultural events needing appropriate attire

Emotional Impact (How does the customer feel):

- **Frustration:** Difficulty finding outfits that match their skin tone.
- **Lack of Confidence:** Uncertainty about appearance, affecting self-esteem.
- **Overwhelm:** Confusion from too many options and decision fatigue.
- **Exclusion:** Feeling underrepresented by limited, non-inclusive choices.
- **Dissatisfaction:** Disappointment with online purchases that don't flatter.
- **Regret:** Guilt over money wasted on unsuitable clothing.
- **Pressure:** Need to conform to trends that may not suit them.
- **Unfulfilled Expression:** Inability to express individuality through fashion.

Quantifiable Impact (What is the measurable impact):

- **Return Rates:** High return rates for online purchases due to dissatisfaction with color matching, leading to increased logistical costs.
- **Wasted Time:** Significant time spent searching for suitable clothing options, both online and in-store.
- **Financial Losses:** Money spent on clothes that aren't worn, contributing to wasted personal expenditure.
- **Inventory Management Issues:** Difficulty in predicting demand for diverse color options, leading to overstock or stockouts.
- **Reduced Customer Lifetime Value (CLV):** Decreased repeat purchases and overall customer spend due to dissatisfaction and lack of personalized recommendations.

Alternative Shortcomings (What are the disadvantages of the alternatives):

- **Generic Fashion Advice:** Lacks personalization, leading to one-size-fits-all recommendations that don't consider individual skin tones.
- **Trial and Error Shopping:** Time-consuming and costly, with high return rates and customer frustration.
- **Manual Color Matching Guides:** Complicated to use and often inaccurate, requiring extensive knowledge and effort from the customer.
- **Limited Online Tools:** Often inaccurate, not user-friendly, and don't cover all skin tones or clothing options.
- **In-Store Assistance:** Not always available or reliable, and subjective opinions may vary between assistants.
- **Social Media Influences:** Trends may not suit everyone, and peer pressure can lead to unflattering choices.

Any Video or Images to showcase the problem:

Comparison Charts: These images demonstrate different skin tones matched with various colors to show what works well and what doesn't. For example, images show how light ivory skin is complemented by placid blues, while dark skin tones sparkle with jewel tones like amethyst and turquoise

<https://www.whowhatwear.com/most-flattering-color-to-wear-for-your-skin-tone>

3. Addressing SDGs

Relevant Sustainable Development Goals (SDGs):

- **SDG 5: Gender Equality**

Promoting inclusivity in fashion can empower all genders, particularly women, by improving confidence and self-expression through suitable fashion choices.

- **SDG 8: Decent Work and Economic Growth**

The fashion and retail industries are significant employers. A better understanding of customer needs can drive innovation, improve customer satisfaction, and boost economic growth in these sectors.

- **SDG 10: Reduced Inequalities**

Providing inclusive and diverse fashion choices for all skin tones helps address inequality by ensuring that all individuals have access to products that meet their needs, regardless of their skin tone.

- **SDG 12: Responsible Consumption and Production**

By reducing return rates through more accurate color matching, the fashion industry can minimize waste and improve the sustainability of consumption patterns.

How does your problem/opportunity address these SDGs?:

- **SDG 5: Gender Equality**

- **Empowerment Through Representation:** By providing inclusive fashion options that cater to diverse skin tones, the solution promotes self-expression and confidence for all genders, particularly women and marginalized communities. This fosters a sense of belonging and reduces the feeling of exclusion in the fashion industry, contributing to gender equality by acknowledging and celebrating diverse beauty standards.

- **SDG 8: Decent Work and Economic Growth**

- **Innovation and Job Creation:** Implementing advanced color matching technologies can stimulate innovation in the fashion and tech industries, creating new job opportunities in fields like AI, machine learning, and fashion design. By catering to a more diverse consumer base, brands can increase customer satisfaction and loyalty, driving economic growth through expanded markets and improved sales conversions.

- **SDG 10: Reduced Inequalities**

- **Inclusive Fashion Choices:** Developing a system that offers personalized color recommendations based on skin tone helps reduce inequalities by ensuring that people of all skin tones have access to clothing that complements them. This promotes a more inclusive society where fashion and beauty standards are not limited to a narrow range, reducing social stigmas and enhancing self-esteem across different demographics.

- **SDG 12: Responsible Consumption and Production**

- **Reduced Return Rates and Waste:** Accurate color matching reduces the likelihood of returns due to dissatisfaction, thereby decreasing fashion waste and promoting more responsible consumption. This can lead to better inventory management, lower environmental impact from returned goods, and a more sustainable production cycle in the fashion industry.

4. Stakeholders

Answer these below questions to understand the stakeholder related to your project

1. Who are the key stakeholders involved in or affected by this project?

- **Consumers:** Individuals seeking personalized fashion choices.
- **Fashion Brands and Retailers:** Benefiting from improved customer satisfaction and reduced returns.
- **E-commerce Platforms:** Enhancing online shopping experiences.
- **Technology Providers:** Developing color matching and recommendation tools.
- **Fashion Consultants:** Using the system for tailored styling advice.
- **Environmental Groups:** Supporting reduced waste and sustainable practices.
- **Investors and Partners:** Funding innovations in fashion-tech.

2. What roles do the stakeholders play in the success of the innovation?

- **Consumers:** Provide feedback and insights into preferences.
- **Fashion Brands/Retailers:** Integrate the system and drive adoption.
- **Fashion Experts/Stylists:** Guide algorithm development and trend curation.
- **Tech Developers/Data Scientists:** Build and refine the matching algorithms.
- **Marketing Teams:** Promote the system and educate users.
- **Investors:** Provide resources and strategic guidance.

3. What are the main interests and concerns of each stakeholder?

1) Consumers:

- **Interests:** Personalized recommendations, ease of use, inclusivity in fashion.
- **Concerns:** Accuracy of matches, privacy of personal data, cultural sensitivity.

2) Fashion Brands/Retailers:

- **Interests:** Increased sales, customer engagement, competitive advantage.
- **Concerns:** Integration costs, alignment with brand image, return on investment.

3) Fashion Experts/Stylists:

- **Interests:** Influence on trends, showcasing expertise, customer satisfaction.

- **Concerns:** Reliability of the technology, impact on their professional role.

4) **Tech Developers/Data Scientists:**

- **Interests:** Innovation, successful algorithm development, user feedback.
- **Concerns:** Technical challenges, maintaining data accuracy, system scalability.

5) **Marketing Teams:**

- **Interests:** Brand promotion, customer acquisition, market positioning.
- **Concerns:** Effectiveness of marketing strategies, user adoption rates.

4. **How much influence does each stakeholder have on the outcome of the project?**

1. Consumers/End-Users (Very High Influence)

Their preferences and feedback shape the system's development and success.

2. Fashion Brands/Retailers (High Influence)

They provide clothing options and influence brand visibility and user engagement.

3. Fashion Experts/Stylists (High Influence)

Their expertise ensures accurate and fashion-forward matching recommendations.

4. Tech Developers/Data Scientists (Very High Influence)

They develop the core algorithms and models, directly affecting accuracy and performance.

5. Marketing Teams (Medium Influence)

Their strategies impact user acquisition, engagement, and overall market success.

5. **What is the level of engagement or support expected from each stakeholder?**

1. Consumers/End-Users

Engagement: High

Regular use, feedback, and participation in surveys or testing.

2. Fashion Brands/Retailers

Engagement: Medium-High

Provide inventory, collaborate on partnerships, and support promotions.

3. Fashion Experts/Stylists

Engagement: Medium-High

Offer expertise, validate recommendations, and advise on trends.

4. Tech Developers/Data Scientists

Engagement: Very High

Develop and optimize algorithms, address technical issues, and implement features.

5. Marketing Teams

Engagement: Medium

Run marketing campaigns, conduct research, and drive user engagement.

6. Are there any conflicts of interest between stakeholders? If so, how can they be addressed?

1. Consumers vs. Fashion Brands/Retailers

- **Conflict:** Consumers seek personalized recommendations, while brands may push their own products, potentially compromising recommendation quality.
- **Resolution:** Implement transparent algorithms that prioritize user preferences while offering brand collaborations as optional, clearly labeled recommendations.

2. Fashion Experts/Stylists vs. Tech Developers/Data Scientists

- **Conflict:** Experts focus on aesthetic accuracy, while developers prioritize algorithm performance and scalability.
- **Resolution:** Foster collaboration between experts and developers to align on data-driven approaches that still honor fashion principles. Regular cross-functional meetings and iterative testing can help balance these priorities.

3. Fashion Brands/Retailers vs. Marketing Teams

- **Conflict:** Brands may prefer exclusivity or focus on premium items, while marketing teams aim to reach a broad audience.
- **Resolution:** Create tiered marketing strategies that cater to different segments, balancing brand exclusivity with broader accessibility campaigns.

4. Tech Developers/Data Scientists vs. Consumers

- **Conflict:** Developers may prioritize technical feasibility, while consumers want intuitive and user-friendly experiences.
- **Resolution:** Incorporate user testing and feedback loops in the development process to ensure that technical solutions meet consumer needs.

5. Fashion Brands/Retailers vs. Fashion Experts/Stylists

- **Conflict:** Brands might push certain styles that are not aligned with expert recommendations for diverse skin tones.
- **Resolution:** Establish guidelines that both brands and experts agree on, ensuring that recommendations remain inclusive and fashion-forward while accommodating brand input.

7. How will you communicate and collaborate with stakeholders throughout the project?

1. Project Kickoff Meeting

Introduce the project, set expectations, and define roles for all stakeholders.

2. Regular Updates and Meetings

Weekly or bi-weekly stand-ups, sprint reviews, and monthly check-ins using tools like Zoom and Jira.

3. Feedback and Review Sessions

Usability testing with consumers, product reviews with brands, and design reviews with fashion experts.

4. Shared Documentation and Collaboration

Use platforms like Slack, Teams, or Confluence for document sharing and updates.

5. Stakeholder Newsletters

Monthly or quarterly updates on progress, challenges, and next steps.

6. Feedback Loop and Surveys

Collect regular feedback to understand concerns and suggestions from stakeholders.

8. What potential risks do stakeholders bring to the project, and how can these be mitigated?

1. Consumers/End-Users

- **Risk:** Low engagement or negative feedback.
- **Mitigation:** Conduct user research and iterative testing.

2. Fashion Brands/Retailers

- **Risk:** Conflicting interests in product promotion.
- **Mitigation:** Set clear collaboration guidelines prioritizing user needs.

3. Fashion Experts/Stylists

- **Risk:** Outdated fashion advice.
- **Mitigation:** Regular updates and a review process for current recommendations.

4. Tech Developers/Data Scientists

- **Risk:** Technical delays.
- **Mitigation:** Use agile practices and conduct regular progress reviews.

5. Marketing Teams

- **Risk:** Ineffective marketing strategies.
- **Mitigation:** Collaborate to analyze demographics and refine campaigns.

6. Regulatory Bodies

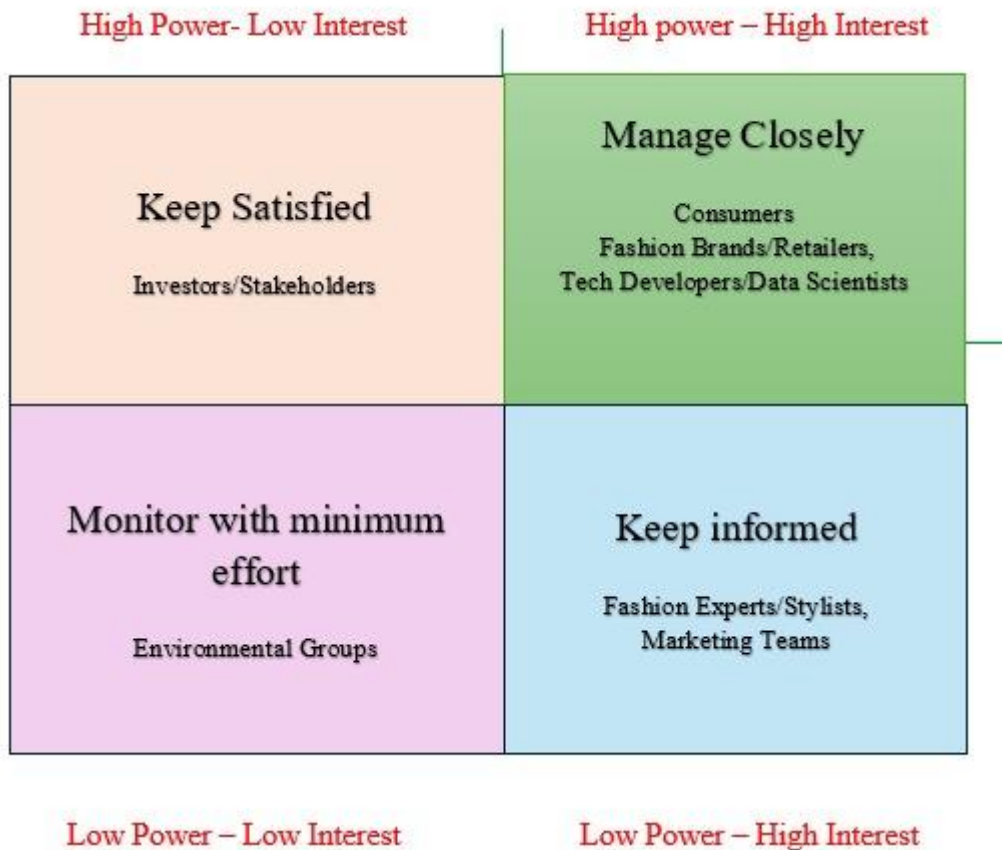
- **Risk:** Non-compliance with regulations.
- **Mitigation:** Engage legal experts to ensure ongoing compliance.

7. Investors/Stakeholders

- **Risk:** Pressure for quick returns.
- **Mitigation:** Set realistic milestones and communicate the importance of quality.

5. Power Interest Matrix of Stakeholders

Power Interest Matrix:



- High Power, High Interest: Consumers , Fashion Brands/Retailers, Tech Developers/Data Scientists
- High Power, Low Interest: Investors/StakeHolders
- Low Power, High Interest: Fashion Experts/Stylists, Marketing Teams
- Low Power, Low Interest: Environmental Groups