

Model Development Phase Template

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| Date | 15 July 2024 |
| Team ID | 739756 |
| Project Title | Unveiling Baldness: Genetic And Environmental Dynamics |
| Maximum Marks | 5 Marks |

Feature Selection Report Template

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection.

| Feature | Description | Selected (Yes/No) | Reasoning |
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| Genetics | genes inherited from parents | No | For predicting the reason behind hair loss |
| Harmonal Changes | hormone can cause hair follicles to shrink | Yes | Genetic predisposition and hormonal imbalances play a significant role in this condition. |

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| Nutritional Deficiencies | Nutritional deficiencies, such as a lack of iron, zinc, and vitamins like D and B, can contribute to hair loss and baldness. | Yes | Nutritional deficiencies, particularly in vitamins and minerals like iron, zinc, and vitamin D, can contribute to hair loss |
| Stress | Stress can contribute to baldness by triggering conditions like telogen effluvium | Yes | Stress can contribute to baldness by triggering hormonal changes and immune responses that disrupt hair growth cycles |
| Age | Genetic predisposition plays a significant role in progression of baldness with age. 40s and 50s | Yes | Age-related baldness, or androgenetic alopecia, is primarily caused by genetic predisposition and hormonal changes |
| Poor Hair care Habits | Poor hair care habits, such as excessive use of heat styling, harsh chemical treatments, and infrequent washing, can contribute to hair damage and thinning | Yes | Poor hair care habits, such as infrequent washing, excessive use of harsh chemicals, and heat styling, can damage hair follicles and contribute to hair thinning. |

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| Environmental Factors | Environmental factors contributing to baldness when exposure to pollutants | Yes | Unveiling baldness often involves examining environmental factors like stress, diet, and exposure to pollutants, which can contribute to hair loss |
| Smoking | Smoking has been linked to an increased risk of baldness, due to the harmful effects of tobacco | Yes | Smoking has been linked to an increased risk of baldness due to its negative effects on blood circulation and hair follicle health |
| Weight Loss | weight loss can be a contributing factor due to its potential impact on nutrient levels and hormonal balance | Yes | Research suggests a possible link between weight loss and reduced baldness, potentially due to improved blood circulation and reduced inflammation. |
| Hair Loss | Baldness is the gradual thinning or loss of hair on the scalp, often influenced by genetic factors, hormonal changes, or medical conditions. | yes | Baldness is primarily caused by genetic factors, specifically the influence of the androgen receptor gene, leading to hair follicle miniaturization |
| Medical Conditions | Baldness, or alopecia, is a medical condition characterized by hair loss | no | Unveiling the reasoning behind baldness involves exploring genetic predispositions and medical conditions like alopecia areata or hormonal imbalances such as androgenetic alopecia |

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| Medications and treatments | Medications like minoxidil and finasteride can slow hair loss | yes | Medications and treatments for baldness, such as minoxidil and finasteride, aim to stimulate hair growth and prevent further hair loss. |
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