Case 3: Project Scope Management

Task 1: Project Scope Statement

Scope Statement (Version 1)

Project Title: Gender Bias AI
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Project Justification:
This project aims to develop a face recognition model optimised against gender bias. The motivation behind this project stems from recent findings that show increased misidentification rates in women compared to men in state-of-the-art AI, particularly in the domain of face recognition. This project intends to address this issue by developing a model less susceptible to gender bias, which can then be incorporated into all fields that apply face recognition.

Project Characteristics and Requirements:

1. AI model must perform face recognition

In scope:

- Accept image and video data in most popular formats, including:
  - Image: PNG, JPG, GIF, TIFF, BMP
  - Video: MP4, MOV, WMV, AVI, FLV
- Detect faces of human subjects and identify their gender
- Detect facial features of subjects, particularly:
  - Hair
  - Eyes
  - Nose
  - Mouth
- Minimal disparity in misidentification rate (less than 5%) between male and female subjects

Out of scope:

- Identify non-human subjects
- Process image background
- Classify data unrelated to gender, such as:
  - Age
  - Income
  - Nationality

Constraints and assumptions:

- The project team will be able to obtain a labelled dataset of faces to train the model.
- The project team will be able to obtain a machine with sufficient computational power to train the model.

2. AI model must be compatible with multiple programming environments

In scope:

- Compatibility with several programming languages, particularly:
  - Python
  - JavaScript
  - C++

- Compatibility with most operating systems, such as:
  - Desktop: Windows, macOS, Linux
  - Mobile: Android, iOS
- APIs for aforementioned programming languages and operating systems

Out of scope:
- Compatibility with other programming languages, such as:
  - C#
  - Ruby
  - Golang

Constraints and assumptions:
- Developers will use the face recognition model to integrate with existing software.
- The APIs will be maintained and updated at regular intervals after product release to ensure continuous support and forward compatibility.

3. Web platform to host the AI model

In scope:
- Accept images and videos uploaded by users
- Process uploaded image and video data
- Display results
- Validate results
- Host developer documentation
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Out of scope:
- User accounts to store user preferences and personal data
- Image and video upload history for each user

Constraints and assumptions:
- Users will have Internet access.
- Users will access the platform using popular web browsers, such as:
  - Chrome
  - Edge
  - Firefox
  - Safari

4. Developer documentation

In scope:
- User guide on how to navigate the web platform
- Setup guide for the AI model

- Description of all key aspects of the AI model, particularly:
  - Image and video processing
  - Face recognition
  - API function calls
- Neat organisation for ease of navigation

Out of scope:
- Translations to non-English languages
- Beginner tutorials on learning the programming languages used

Constraints and assumptions:
- Users are able to read and understand English.
- Developers are able to read and understand technical documentation.

Summary of Project Deliverables:
Project management-related deliverables:

1. Business case
2. Scope statement
3. Requirements traceability matrix
4. Risk register
5. Work breakdown structure (WBS)
6. Gantt chart (schedule)
7. Project design report
8. Project progress report
9. Project proposal report
10. Team management report
11. Final project report

Project-related deliverables:

1. AI face recognition model
2. Reports on model accuracy
3. APIs for AI model
4. Web platform
5. AI model source code
6. Web platform source code
7. Developer documentation

Project Success Criteria:
This project will be considered a success if the following conditions are met:
- The face recognition model and all additional software meet the requirements and characteristics mentioned.
- Each deliverable is produced on schedule, with the final project to be completed by the initial deadline of October 2021.