Project Goal: To create a system that automatically scans CVs submitted for a specific job description, categorizes them into relevant buckets based on skills and experience, and prepares them for screening using AI-powered voice calls.

I. Core Functionality & Output:

1. **Input:**
    - **CVs (Resumes):** The system must accept CVs in various common formats (e.g., PDF, DOC, DOCX, TXT, RTF). Must be able to handle scanned documents and images with OCR functionality.
    - **Job Description:** The system must accept the text of the job description. Ideally, it should also accept a URL to the job description on a website.
    - **Configuration (Optional):**
        - **Skill Weights:** Allow recruiters to assign weights to specific skills mentioned in the job description, indicating their relative importance.
        - **Experience Thresholds:** Allow specification of minimum experience levels for different roles or skills.
        - **Exclusion Criteria:** Allow defining keywords or phrases that should automatically disqualify a candidate (e.g., "no experience," "not authorized to work in country").
2. **Processing & Analysis:**
    - **CV Parsing & Extraction:**
        - **Output:** Extract relevant information from the CV, including:
            - Contact information (name, email, phone number)
            - Skills
            - Work experience (job titles, companies, dates, descriptions)
            - Education (degrees, institutions, dates)
            - Certifications
            - Languages
            - Other relevant information (e.g., awards, publications, volunteer experience)
        - **Accuracy:** Ensure high accuracy in extracting information, even from poorly formatted or scanned CVs.
    - **Job Description Analysis:**
        - **Output:** Identify key skills, experience levels, and requirements specified in the job description.
    - **Matching & Scoring:**
        - **Output:** Generate a match score for each CV based on its relevance to the job description. The score should consider:
            - Presence of required skills
            - Level of experience in relevant roles
            - Education and certifications
            - Overall fit with the job requirements
        - **Ranking:** Rank CVs based on their match scores.
    - **Bucketization (Categorization):**
        - **Output:** Automatically categorize CVs into pre-defined or dynamically created buckets based on skills, experience levels, or other criteria.

        - **Examples:**
            - "Software Engineers - 3+ years experience - Python"
            - "Data Scientists - Machine Learning focus"
            - "Project Managers - Agile methodology"
        - **Overlap:** Allow CVs to be placed in multiple buckets if they meet the criteria.
3. **Output for Recruitment Team:**
    - **Searchable Database:** A searchable database of parsed CV data, allowing recruiters to:
        - Search by keyword (skills, job titles, companies, etc.)
        - Filter by bucket
        - Sort by match score or other criteria
    - **CV Summary:** A concise summary of each CV, highlighting key skills, experience, and the match score.
    - **Direct Access to CV:** Easy access to the original CV file.
    - **AI Voice Call Integration:**
        - **Data Export:** Ability to export candidate data (name, phone number, key skills) in a format suitable for integration with an AI-powered voice call system.
        - **Call Script Generation (Ideal):** Optionally, generate a suggested call script based on the job description and the candidate's CV, focusing on key areas for qualification.
4. **Reporting & Analytics:**
    - **Application Statistics:** Track the number of CVs received, the distribution of CVs across buckets, and the average match scores.
    - **Source Tracking (Optional):** If the system can track the source of applications (e.g., job boards), report on the performance of different sourcing channels.
    - **Time-to-Fill Metrics:** Help track the time it takes to fill positions by providing data on the efficiency of the screening process.

II. Technical Requirements:

1. **API Interface:** The system must expose a well-defined API for:
    - Uploading CVs
    - Submitting job descriptions
    - Retrieving CV data, match scores, and bucket assignments
    - Integrating with external systems (e.g., applicant tracking systems, AI voice call platforms)
2. **Scalability:** The system should be designed to handle a large volume of CVs efficiently.
3. **Security:** The system must be secure and protect sensitive candidate data. Comply with relevant data privacy regulations (e.g., GDPR, CCPA).
4. **User Authentication & Authorization:** Implement secure user authentication and authorization to control access to the system and its data.

III. Success Metrics:

1. **Accuracy:** High accuracy in CV parsing and extraction.
2. **Relevance:** High relevance of match scores and bucket assignments.

3. **Efficiency:** Significant reduction in the time it takes to screen CVs.
4. **Improved Candidate Quality:** Identification of higher-quality candidates.
5. **Positive User Feedback:** Positive feedback from recruiters on the usability and effectiveness of the system.

Example Workflow:

1. Recruiter uploads a job description to the system.
2. Candidates submit their CVs.
3. The system parses the CVs, extracts relevant information, and calculates match scores.
4. The system automatically categorizes the CVs into relevant buckets.
5. Recruiters can search, filter, and sort CVs in the database.
6. Recruiters can export candidate data for AI voice calls or generate suggested call scripts.
7. AI Calls to identify and screen the most promising candidates.