SE ASSIGNMENT 1

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Introduction:

Our project aims to streamline medication management by extracting vital information such as medicine names, prices, and discounts from a variety of file formats using Optical Character Recognition (OCR) technology.

Scope:

Compared to a regular Electronic Health Record (EHR), our software (OCRMed) has several improved features.

1. **Electronic Health Record (EHR) Software**:

Features:

* + Patient Record Management: EHR software allows healthcare providers to create, update, and access patient medical records electronically, including demographics, medical history, medications, allergies, and lab results.

Clinical Decision Support: EHR software often includes decision support tools such as drug interaction checks, allergy alerts, and clinical guidelines to assist healthcare providers in making informed treatment decisions.

1. **OCRMed (Optical Character Recognition) Software**:

Features:

* + Document Digitization: OCRMed software converts scanned documents, images, and PDFs into editable and searchable text, enabling automated data extraction and analysis.
  + Data Extraction: OCR systems extract text and data from various document types, including medical prescriptions, invoices, and medical records, facilitating information retrieval and processing.
  + Text Recognition Accuracy: Advanced OCR algorithms and machine learning techniques enhance text recognition accuracy, enabling reliable extraction of medicine names, prices, and discounts from healthcare documents.
  + File Format Compatibility: OCR software supports multiple file formats commonly encountered in medical contexts, including PDFs, JPEGs, PNGs, and TIFFs, enhancing flexibility and applicability.
  + Integration Capabilities: OCR systems offer integration capabilities with Electronic Health Record (EHR) systems, Pharmacy Management Systems (PMS), and other healthcare applications, facilitating seamless data exchange and workflow integration.

Similarities:

* Both EHR and OCRMed software focus on improving efficiency and data accessibility within healthcare settings.
* They incorporate features for managing patient information, facilitating data retrieval, and enhancing operational workflows.

Differences:

* EHR software primarily focuses on managing comprehensive patient health records and facilitating clinical decision-making, whereas OCR software specializes in document digitization, text extraction, and data processing from scanned documents.

**Pricing:**

1. **Electronic Health Record (EHR) Software**:
   * Pricing Model: Subscription-based model.
   * Upfront Costs: None for smaller organizations.
   * Recurring Fees: Monthly or annual subscription fees for ongoing access.
2. **OCRMed (OCR Software for Medical Documents)**:
   * Pricing Model: Freemium model.
   * Upfront Costs: None for basic features.
   * Recurring Fees: Subscription fees for advanced features, applicable mostly to large companies.

In summary, while EHR software operates on a subscription-based model with recurring fees, OCRMed offers basic features for free and charges subscription fees for advanced features, mostly targeting larger companies.

Technical Support and Documentation:

Both OCRMed and EHR provide documentation and user guides designed for an easy and comfortable experience.

OCRMed documentation includes instructions, manuals, a glossary, a dictionary of common diseases and nearby clinics.

EHR may offer varying levels of support and documentation depending on the subscription tier, with more comprehensive resources available to paid subscribers.

Technology Stack:

**Electronic Health Record (EHR) Software**:

* Frontend:
  + Framework: React.js or Angular
  + Styling: CSS
* Backend:
  + Language: Node.js (with Express.js)
  + Database: MongoDB, PostgreSQL, or MySQL

**OCRMed (OCR Software for Medical Documents)**:

* Frontend:
  + Framework: React.js
  + UI Components: Bootstrap
  + Styling: CSS
* Backend:
  + Language: Python (with Flask or Django)
  + OCR Engine: Tesseract OCR or Google Cloud Vision API
  + Authentication: Flask-Login (for Flask)

**Pros and Cons of EHR Software Tech Stack:**

1. **Frontend (React.js or Angular):**
   * **Pros:** Offers rich user experience and extensive libraries.
   * **Cons:** Steep learning curve, especially for Angular.
2. **Database (MongoDB):**
   * **Pros:** MongoDB for flexibility,
   * **Cons:** MongoDB lacks transactions.

**Pros and Cons of OCRMed Tech Stack:**

1. **Frontend (React.js with Bootstrap):**
   * **Pros:** Component-based UI, rapid development with Bootstrap.
   * **Cons:** Limited customization with Bootstrap defaults.
2. **Backend (Python with Flask or Django):**
   * **Pros:** Python's readability, Flask/Django's powerful features.
   * **Cons:** Django's complexity for small projects.
3. **OCR Engine (Tesseract OCR or Google Cloud Vision API):**
   * **Pros:** Tesseract's accuracy, Google Cloud's scalability.
   * **Cons:** Tesseract may require pre-processing, Google Cloud may incur costs.
4. **Authentication (Flask-Login for Flask):**
   * **Pros:** User session management out of the box.
   * **Cons:** Limited compared to comprehensive solutions.