1. Project Planning & Requirements Analysis (1-2 weeks) ***(NOVEMBER)***

Resources:

- **Project Manager**: To oversee planning, timelines, and resource allocation.
- **Business Analyst**: To gather requirements, define project scope, and document use cases.

Technologies & Tools:

- **Collaboration Tools**: Slack, Microsoft Teams, or Zoom for team communication.
- **Project Management Tools**: Jira, Trello, or Asana for task management and tracking.
- **Documentation Tools**: Google Docs, Notion, or Confluence for requirement documentation.
- **Mind Mapping**: Miro or Lucidchart for brainstorming and visualizing ideas.

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2. System Design (2-3 weeks) ***(DECEMBER)***

Resources:

- **Solution Architect**: To design system architecture and database structure.
- **UI/UX Designer**: To create wireframes and design user interface.
- **Technical Lead**: To finalize the tech stack and system components.

Technologies & Tools:

- **Design Tools**: Figma, Adobe XD, or Sketch for UI/UX design.
- **Database Design Tools**: MySQL Workbench, ERDPlus, or Lucidchart for database schema.
- **Architecture Design**: Draw.io or Visio for system architecture diagrams.
- **Version Control**: Git/GitHub or GitLab for source code management.

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3. Development Phase (6-8 weeks) ***(DECEMBER TO JANUARY)45DAYS***

Module 1: File Type Conversion

Resources:

- **Backend Developers**: For developing APIs and server-side logic.
- **Frontend Developers**: For creating the user interface and client-side functionalities.

Technologies & Tools:

- **Frontend**: React.js or Angular for building a responsive UI.
- **Backend**: Node.js or Django for server-side processing.

- **File Conversion Libraries**: ImageMagick, Pillow (Python), or Sharp (Node.js) for handling file formats.
- **APIs**: RESTful APIs for handling file uploads and conversions.

Module 2: AI Tools (Speech-to-Text, OCR, Image Enhancements)

Resources:

- **Data Scientists/AI Engineers**: To build and integrate AI models.
- **Machine Learning Engineers**: For model training, optimization, and deployment.

Technologies & Tools:

- **AI Frameworks**: TensorFlow, PyTorch, or OpenCV for AI functionalities.
- **Speech-to-Text**: Google Speech API or IBM Watson Speech-to-Text.
- **OCR Tools**: Tesseract OCR or Google Vision API.
- **Image Processing**: OpenCV, Scikit-Image, or PIL (Python Imaging Library).
- **Containerization**: Docker for packaging and deploying models.

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4. Integration & Testing (2-3 weeks)*(February)*

Resources:

- **Quality Assurance (QA) Engineers**: For testing functionalities, performance, and security.
- **DevOps Engineer**: For CI/CD pipeline setup.

Technologies & Tools:

- **Automated Testing**: Selenium, Cypress (for frontend), PyTest (for backend).
- **API Testing**: Postman or Insomnia for testing APIs.
- **CI/CD Tools**: Jenkins, GitHub Actions, or CircleCI for automated deployment.
- **Container Orchestration**: Kubernetes (if using microservices) for scaling.

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5. Deployment & Launch (1-2 weeks)(MARCH)

Resources:

- **Cloud Engineer**: For cloud infrastructure setup and deployment.
- **Technical Support Team**: For post-deployment support and monitoring.

Technologies & Tools:

- **Cloud Platforms**: AWS (EC2, S3, Lambda), Azure, or Google Cloud Platform.
- **Web Server**: Nginx or Apache for hosting.

- **CI/CD Deployment**: Terraform or Ansible for infrastructure as code.
- **Monitoring & Logging**: New Relic, Datadog, or ELK Stack (Elasticsearch, Logstash, Kibana).

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6. Post-Launch Support & Maintenance (Ongoing)

Resources:

- **Support Engineers**: For handling bug reports and user queries.
- **Maintenance Team**: For regular updates and feature enhancements.

Technologies & Tools:

- **Monitoring Tools**: Prometheus, Grafana for performance monitoring.
- **Error Tracking**: Sentry or Bugsnag for real-time error reporting.
- **User Feedback**: Hotjar or Google Forms for collecting user feedback.
- **Security**: OWASP ZAP or Nessus for vulnerability assessment.