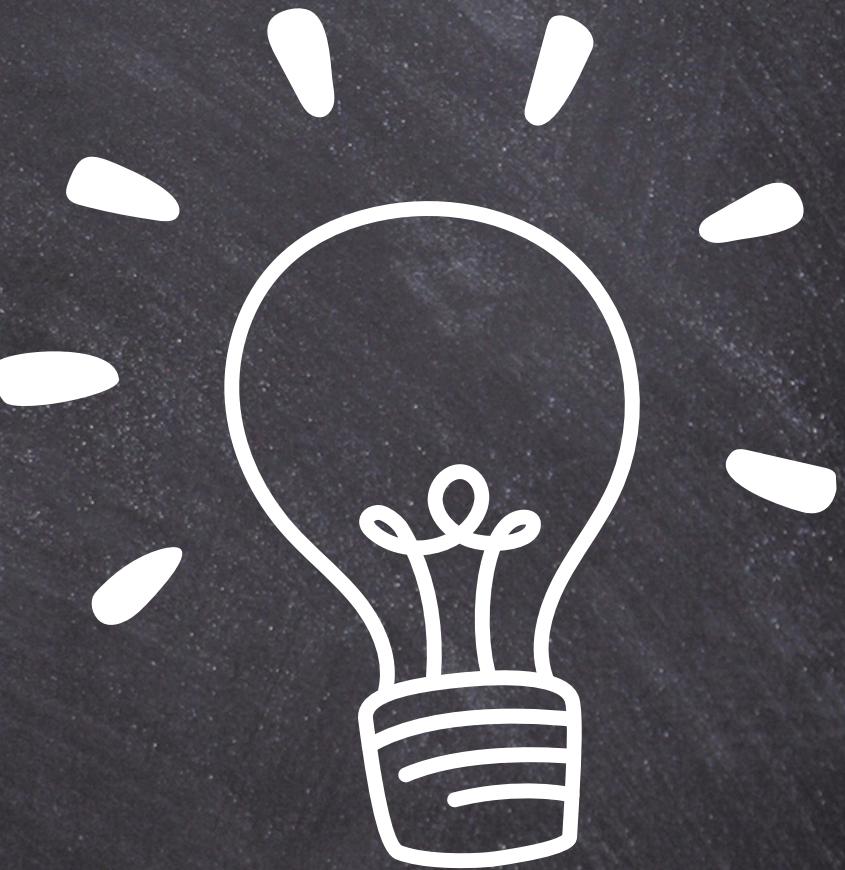




PROBLEM STATEMENT

DENTISTS OFTEN STRUGGLE WITH COMPLEX CASES WHERE CHOOSING THE RIGHT TREATMENT ISN'T STRAIGHTFORWARD. RELYING SOLELY ON EXPERIENCE CAN LEAD TO VARIED RECOMMENDATIONS. AN AI-POWERED TOOL CAN ANALYZE PATIENT DATA, INCLUDING X-RAYS AND MEDICAL RECORDS, TO PROVIDE CONSISTENT, EVIDENCE-BASED TREATMENT SUGGESTIONS, IMPROVING ACCURACY, EFFICIENCY, AND PATIENT OUTCOMES.



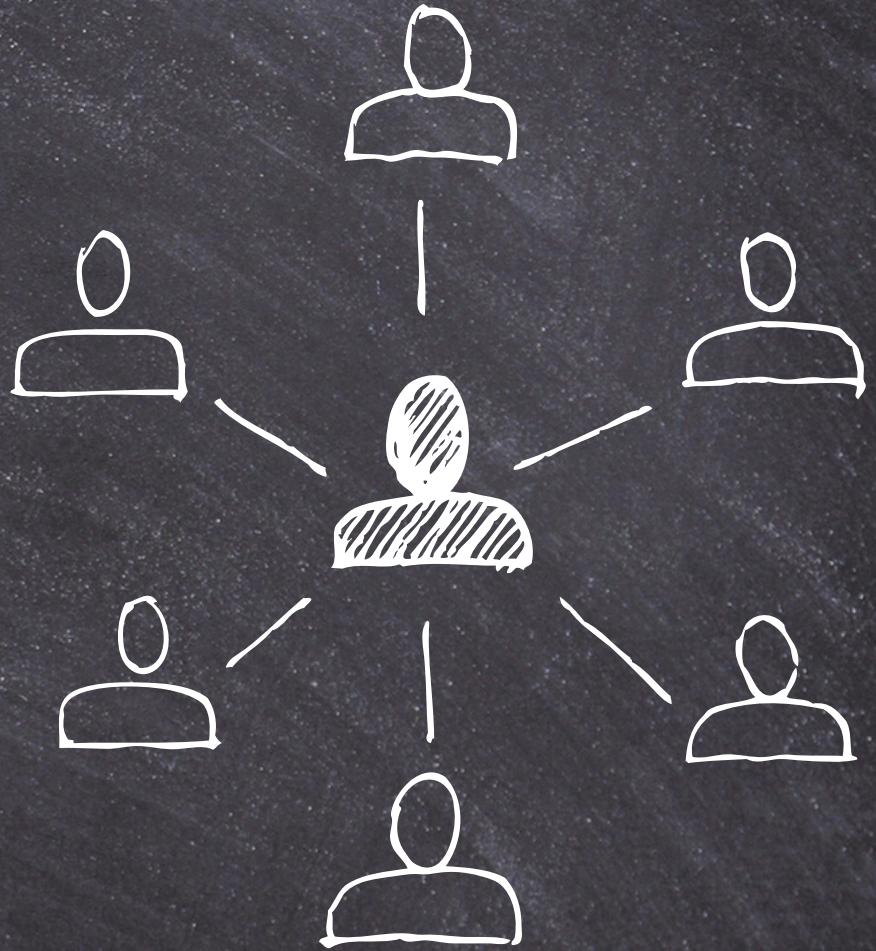
SOLUTION

- **AI-POWERED DIAGNOSIS:** ANALYZES DIGITAL X-RAYS, SCANS, AND MEDICAL RECORDS TO DETECT DENTAL CONDITIONS.
- **TREATMENT SUGGESTIONS:** PROVIDES EVIDENCE-BASED TREATMENT OPTIONS WITH EXPLANATIONS AND EXPECTED OUTCOMES.
- **SEAMLESS INTEGRATION:** EASILY CONNECTS WITH EXISTING DENTAL RECORD SYSTEMS FOR A SMOOTH WORKFLOW.
- **CONTINUOUS LEARNING:** IMPROVES OVER TIME BY ADAPTING TO FEEDBACK FROM DENTAL PROFESSIONALS.
- **ENHANCED EFFICIENCY:** REDUCES DIAGNOSIS TIME, MINIMIZES HUMAN ERROR, AND ENSURES CONSISTENT RECOMMENDATIONS.
- **VIRTUAL ASSISTANT:** ENABLES VOICE-BASED INTERACTION TO ASSIST DENTISTS IN ACCESSING REPORTS AND SUGGESTIONS.
- **REPORT SUMMARIZATION:** CONVERTS LENGTHY PATIENT RECORDS INTO CONCISE, EASY-TO-UNDERSTAND SUMMARIES.
- **IMAGE & X-RAY ANALYSIS:** DETECTS DENTAL ANOMALIES, CAVITIES, INFECTIONS, AND OTHER CONDITIONS WITH AI-POWERED INSIGHTS.



TECH STACK

- Frontend: React.js (for an intuitive UI)
- Backend: Flask (for handling API requests)
- Database: MongoDB (for storing patient records and treatment history)
- AI/ML:
- LLM Used: (for virtual assistant & report summarization)
- TensorFlow/Keras (for X-ray image analysis and anomaly detection)
- NumPy & Pandas (for data processing)
- Scikit-learn (for predictive analytics and treatment suggestions)
- Integration: REST APIs for connecting with clinic systems



KEY FEATURES

VIRTUAL
ASSISTANT

IMAGE
ANALYSIS

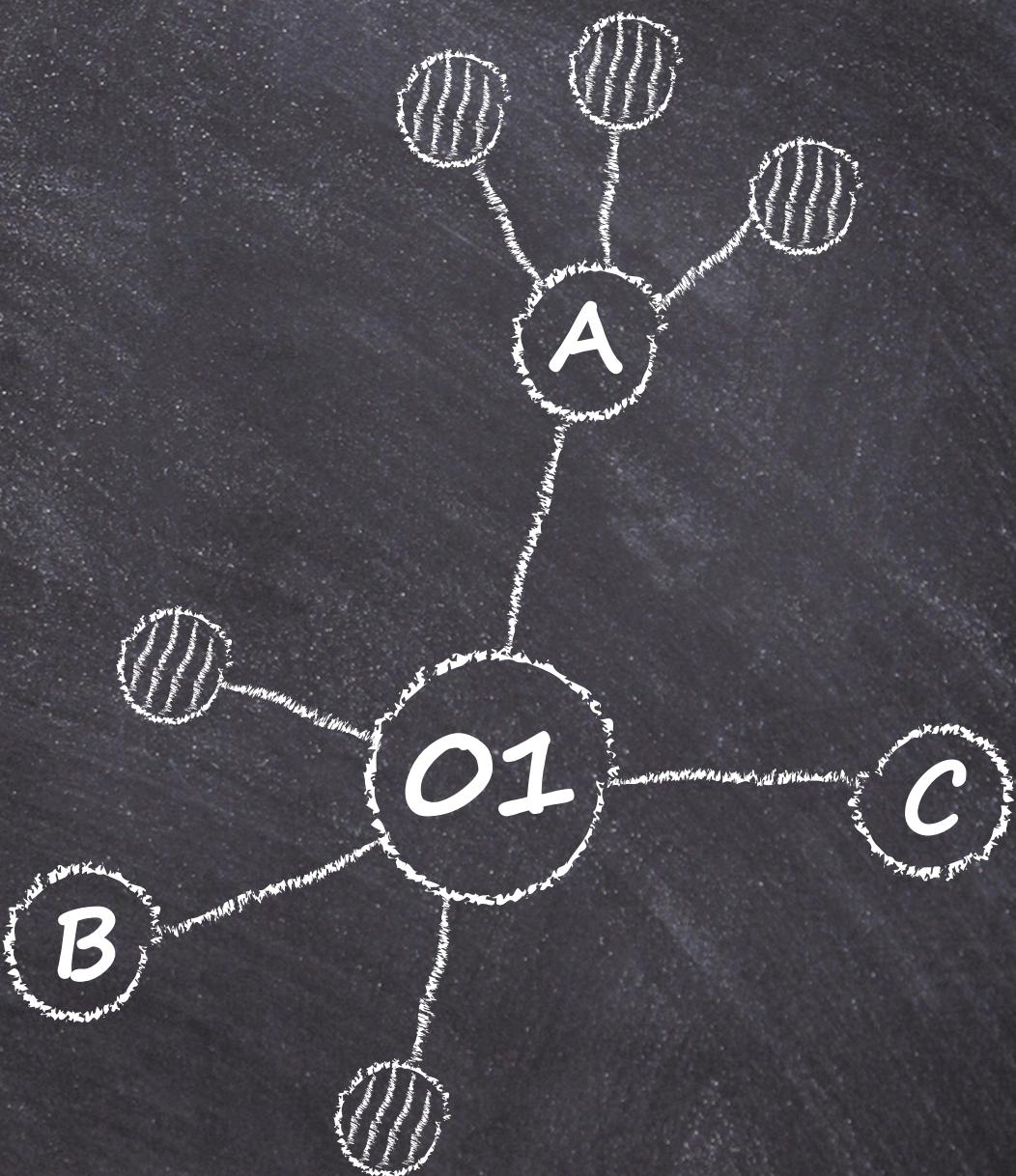
X-RAY
ANALYSIS

TREATMENT
SUGGESTIONS

REPORT
SUMMARIZATIO
N

POTENTIAL CHALLENGES & SOLUTIONS

- Accuracy of Diagnosis → Train on diverse datasets & incorporate dentist feedback.
- Reliable Treatment Suggestions → Use Google Gemini, expert-verified data & allow manual review.
- Integration Issues → Provide REST APIs & support multiple data formats.
- Data Privacy & Security → Implement encryption, HIPAA compliance & access controls.
- User Adoption & Trust → Use explainable AI & offer training sessions.
- Performance & Scalability → Optimize models & leverage cloud-based GPU instances.



2

AI That Understands Dentists →
Provides intelligent, data-driven
treatment suggestions while keeping
the dentist in control.

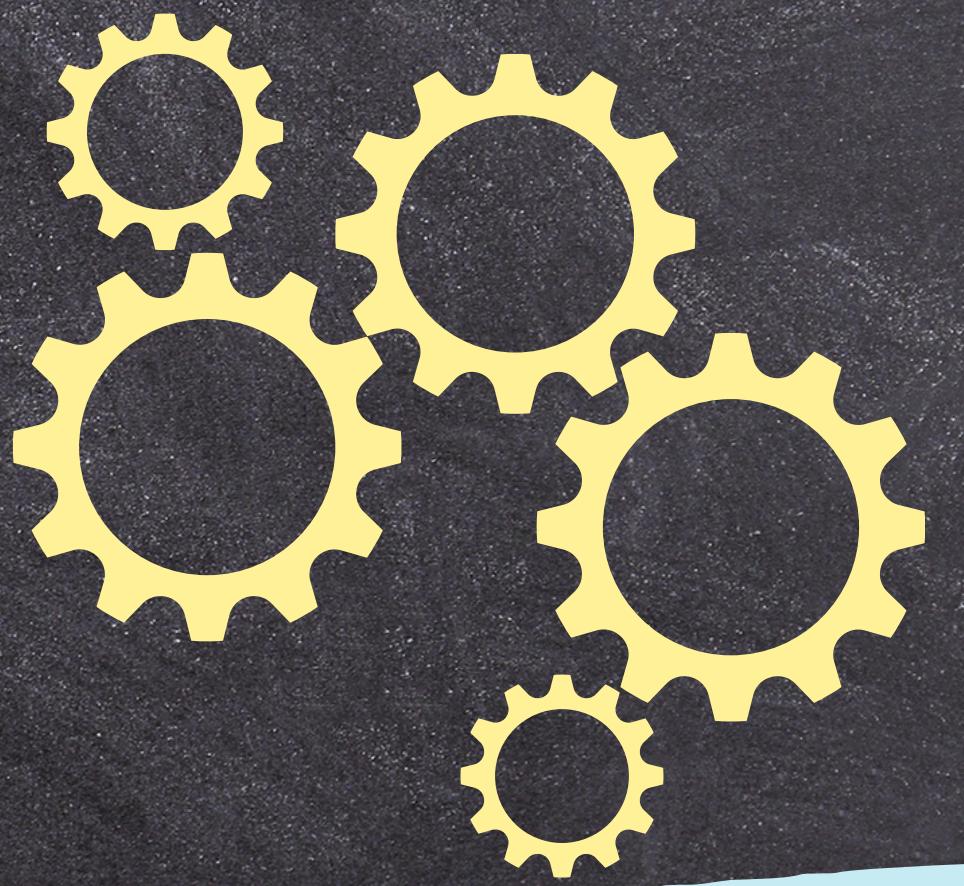
Faster & Smarter Workflow →
Automates repetitive tasks
like X-ray analysis and report
summarization, saving valuable
time.



3

Trustworthy & Future-
Proof → Continuously
learns from real cases,
ensuring accurate, up-
to-date, and reliable
recommendations.

WHY DANTIKA?



DEMO.....

CONCLUSION

Dantika is a game-changer for dental clinics, revolutionizing diagnosis, treatment planning, and workflow efficiency with AI-powered precision. By enhancing accuracy, saving time, and ensuring seamless integration, Dantika empowers dentists to provide better patient care.



THANK YOU