Kiongozi Platform AI Chatbot - Project Roadmap

ID	Phase	Milestone	Description	Timeline	Key Deliverables	Success Metrics	Risk Factors	Mitigation Strategy
1.1	Project Setup	Project Initialization	Set up separate repositories, configure development environments	Early July 2025	- Two GitHub repositories- Development environments- CI/CD pipelines	Repository setup complete	Setup complexity	Detailed setup documentation
1.2	Project Setup	Dependencies Setup	Set up backend and frontend base projects	Early July 2025	- Backend Node.js/Express setup- Frontend React setup- AI/ML environment	All systems running	Version conflicts	Lock file management
1.3	Project Setup	Database Migration	Plan database schema and migration strategy	Mid July 2025	- Database schema docs- Migration scripts	Schema validation	Data loss risk	Backup strategy
2.1	Core Features	Authentication System	Implement separate auth for API and clients	Mid July 2025	- JWT implementation- Auth middleware- User management API	< 200ms response time	Security vulnerabilities	Regular security audits
2.2	Core Features	Chat Engine Backend	Develop core chat processing engine	Late July 2025	- Chat API endpoints- Message processing- Real-time setup	< 1s response time	Scaling issues	Load testing plan
2.3	Core Features	Knowledge Base	Set up civic education content database	Late July 2025	- Knowledge base schema- Content API- Import tools	Content coverage > 90%	Data quality	Content review process
3.1	AI/ML Integration	Model Integration	Set up TensorFlow models and API	Early Aug 2025	- AI model deployment- Model API endpoints- Monitoring	Model accuracy > 90%	Model performance	Regular retraining
3.2	AI/ML Integration	Training Pipeline	Implement model training pipeline	Mid Aug 2025	- Training infrastructure- Data preprocessing- Model versioning	Training success rate > 95%	Data bias	Diverse training data
4.1	Client Development	Web Client	Develop responsive web interface	Mid Aug 2025	- Chat interface- User dashboard- Admin panel	Mobile responsiveness	UX consistency	Cross-device testing
4.2	Client Development	Mobile API	Implement mobile-specific endpoints	Late Aug 2025	- Mobile API docs- Auth flows- Performance optimization	API latency < 150ms	Mobile compatibility	Device testing matrix
4.3	Client Development	Documentation	Create comprehensive API docs	Late Aug 2025	- API documentation- Integration guides- Usage examples	Doc coverage 100%	Documentation gaps	Peer review process
5.1	Testing	Backend Testing	Implement backend test suite	Early Sept 2025	- Unit tests- Integration tests- Load tests	Test coverage > 90%	Test reliability	Automated CI/CD
5.2	Testing	Frontend Testing	Implement frontend test suite	Early Sept 2025	- Component tests- E2E tests- Performance tests	UI test coverage > 90%	Test maintenance	Test automation
5.3	Testing	AI Model Testing	Test and validate AI models	Mid Sept 2025	- Accuracy metrics- Performance benchmarks- Error analysis	Validation accuracy > 90%	Model drift	Continuous monitoring
6.1	Deployment	Staging Deploy	Deploy to staging environment	Mid Sept 2025	- Staging environment- Monitoring- Performance baselines	Uptime > 99.9%	Environment parity	Infrastructure as code
6.2	Deployment	Production Setup	Set up production infrastructure	Late Sept 2025	- Production environment- Scaling config- Backup systems	Resource optimization	Infrastructure costs	Cost monitoring
6.3	Deployment	Launch	Production deployment and monitoring	Late Sept 2025	- Production deployment- Launch checklist- Monitoring dashboard	System uptime > 99.9%	Launch issues	Rollback procedure