

**ARDHI UNIVERSITY**



**SCHOOL OF EARTH SCIENCES, REAL ESTATE, BUSINESS STUDIES AND  
INFORMATICS (SERBI)**

**DEPARTMENT OF COMPUTER SYSTEMS AND MATHEMATICS (CSM)**

**BSC. COMPUTER SYSTEMS AND NETWORKS (BSc.CSN)**

**IS352: EMERGING INFORMATION TECHNOLOGIES AND INNOVATION**

**PREPARED BY GROUP 7**

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**Problem; Traffic Congestion:** Dar es Salaam experiences severe traffic congestion, leading to increased travel time and fuel consumption.

**proposed innovative solution; Smart Traffic Management System:** Implement an intelligent traffic control system that adjusts traffic signals based on real-time traffic flow data collected from sensors installed on roads

**Used Technology:** Internet of Things (IoT) for traffic sensors, Artificial Intelligence (AI) for the smart traffic management system, and Mobile app development for user interface and interaction.

Consider the canvas deconstructed view of the idea above by leans canvas as follows.

# Project Canvas

Participants +	Goals +	Users +	Activities +	Deliverables +
<b>Participants</b> <ul style="list-style-type: none"><li>- Government transportation agencies</li><li>- Commuters and drivers</li><li>- Technology developers and vendors</li><li>- City planners and administrators</li></ul>	<b>Goals</b> <ul style="list-style-type: none"><li>- Reduce traffic congestion and travel time</li><li>- Improve overall traffic flow and efficiency</li><li>- Enhance the quality of urban living</li></ul>	<b>Users</b> <ul style="list-style-type: none"><li>- Commuters relying on public and private transportation</li><li>- Traffic control and management authorities</li><li>- App developers and technology enthusiasts</li></ul>	<b>activities</b> <ul style="list-style-type: none"><li>- Develop and deploy IoT sensors and cameras for real-time data collection</li><li>- Implement machine learning algorithms for predictive traffic analysis</li><li>- Collaborate with transportation agencies for data sharing</li></ul>	<b>deliverables</b> <ul style="list-style-type: none"><li>- Functional smart traffic management system prototype</li><li>- Mobile application for commuters with real-time updates</li><li>- Comprehensive data analytics dashboard for traffic authorities</li></ul>
		<b>User Benefits +</b> <b>Benefits</b> <ul style="list-style-type: none"><li>- Reduced travel time and fuel consumption</li><li>- Real-time traffic updates and alternative routes</li><li>- Improved air quality and environmental conditions</li></ul>		
<b>Risks +</b> <b>Risks</b> <ul style="list-style-type: none"><li>- Resistance to change from traditional traffic management systems</li><li>- Technical glitches leading to system failures</li><li>- Privacy concerns related to data collection and monitoring</li></ul>	<b>Milestones +</b> <b>Milestones</b> <ul style="list-style-type: none"><li>- Successful implementation of a pilot program in a key traffic zone</li><li>- Integration with existing traffic infrastructure</li><li>- Positive feedback from commuters and traffic authorities</li></ul>	<b>Constraints +</b> <b>Constraints</b> <ul style="list-style-type: none"><li>- Limited initial funding for infrastructure setup</li><li>- Potential resistance from traditional traffic management stakeholders</li><li>- Regulatory hurdles and compliance issues</li></ul>	<b>Scope +</b> <b>scope</b> <ul style="list-style-type: none"><li>- Initial focus on key traffic hotspots in Dar es Salaam</li><li>- Integration with existing traffic signals and control systems</li></ul>	

Project Canvas

## Brainstorming Space +

### brainstorm ideas

- Community-driven feature suggestions and voting for continuous improvement