



When surgery, AI and AR unite!



PLAN

1. The Problem
2. Our Solution
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5. Features
6. Market Size
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8. Project Realization Strategy
9. Business Model
10. Financing
11. BMC

The Problem



World Health
Organization

The world health organization improve that every year there is 43 million medical errors which kill 400 000 people

Our Solution



Real-time AI & AR-assisted Surgery

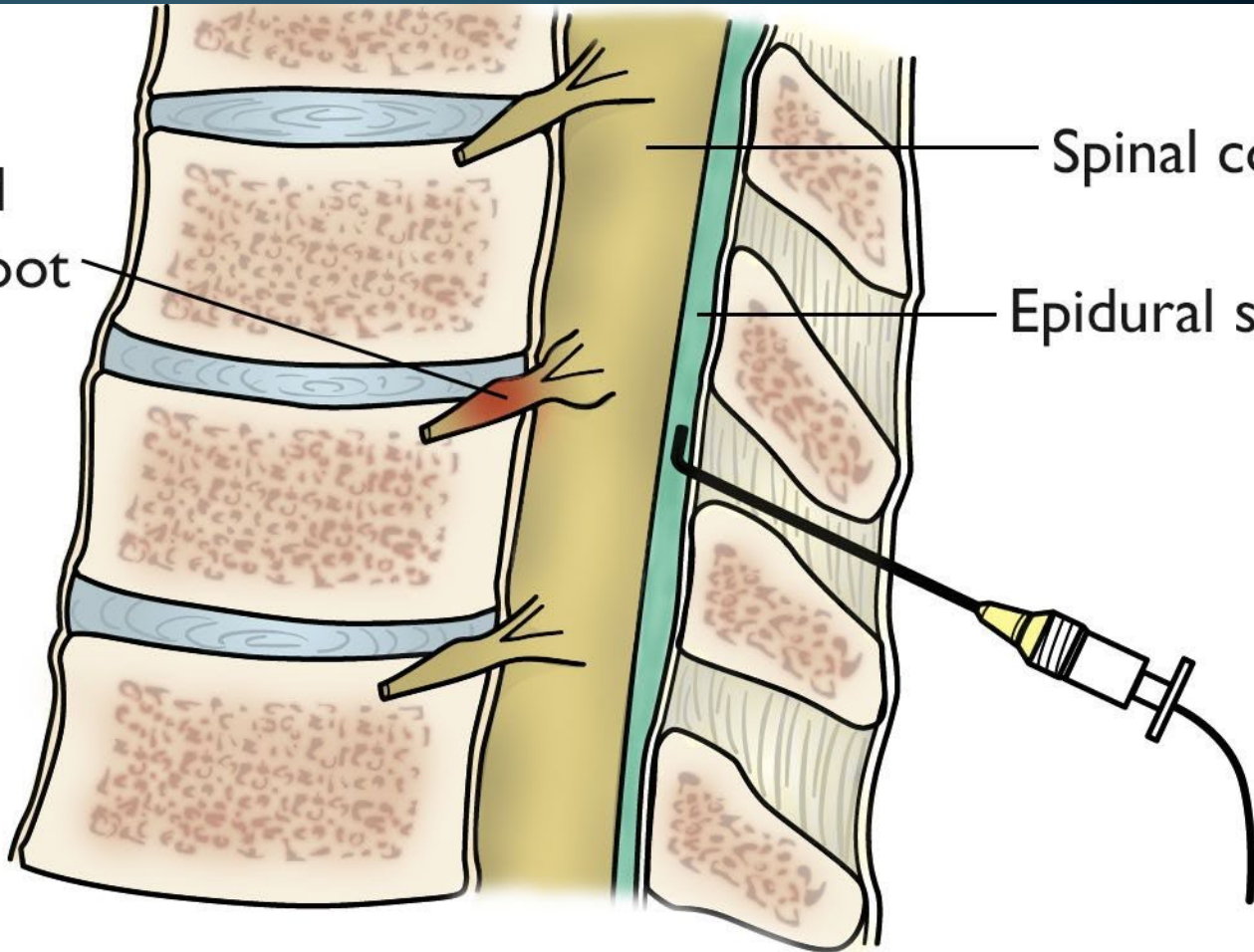
Augmented Reality Surgery is a real-time intraoperative AI to power a robust surgical toolkit, including surgical assistance in the Operating Room and surgeon feedback and analytics.

Example: Spinal Cord Surgery



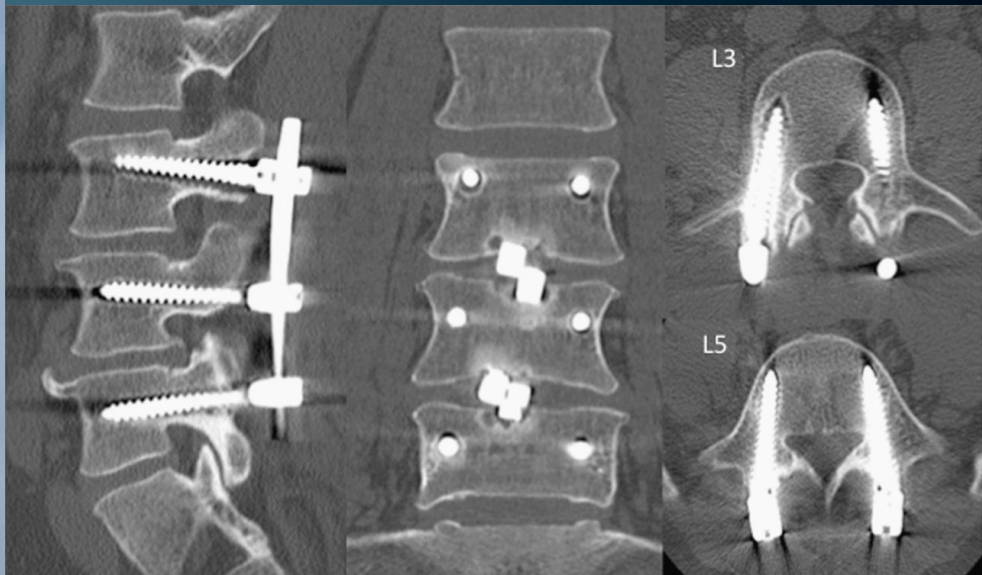
Preemptive CT Scan

Inflamed
nerve root



Spinal cord

Epidural space





CT Real-time Scanner
(O-arm)



Cloud AI
Server
(NVIDIA)



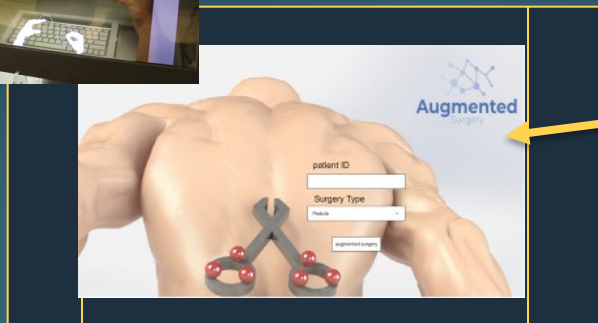
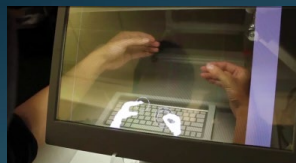
Overhead light

V120: Trio
Optical tracking
system: Stereo
camera

Projector Screen +
Processing Unit

AR Optical See-
through Holographic
Display

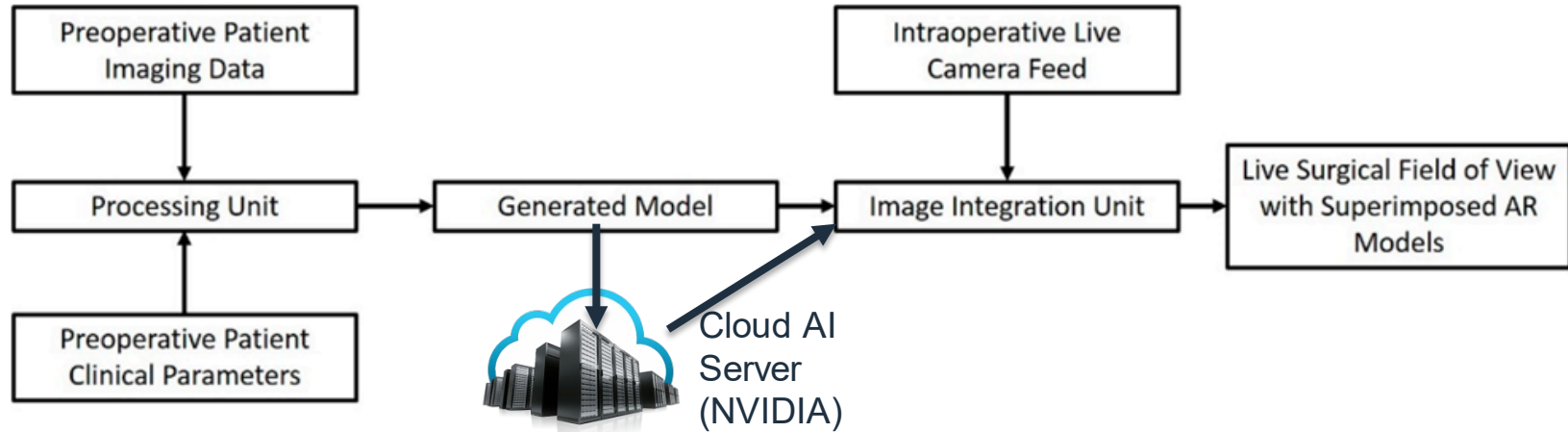
Stand



The Prototype Platform

https://www.justinmind.com/usernote/tests/73847986/73849238/73849240/index.html?fbclid=IwAR2iGvJIDxS6P-HIKEIAs2Z9oIAZg3C_K56CZ4RFQEr7CbuFwd-718CQLYs#/screens/d12245cc-1680-458d-89dd-4f0d7fb22724

AIoT Architecture

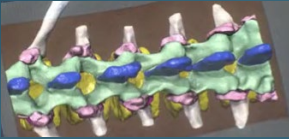


- 1- Creating a virtual 3D image of the patient's anatomy (ROI)
- 2- Image analysis, processing and anatomy segmentation
- 3- Diagnostic, preoperative planning, surgical simulation
- 4- Surgical navigation assistance

Features

Autonomous Anatomy Segmentation

CNN segmentation of patient anatomy based on intraoperative 3D imaging.



Augmented Reality Guidance

3D trajectory and targeting are superimposed on surgical instruments in real time



Automatic Intraoperative Surgical Plan

Suggests a surgical plan that eliminates time spent manually planning tasks and choosing tools

PLAN			
T1	Screw	Diameter (mm)	Length (mm)
	Right	5.5	40
T2	Left	6.2	50

Extra Features

- AI that tells surgeons to avoid areas near blood vessels
- Shows how thousands of previous successful surgeons traversed the anatomy and where they intervened.
- Another programme calculates the tissue's resilience and suggests alternatives if necessary

Market size

\$14.75 billion



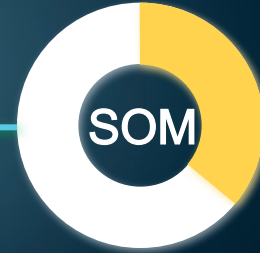
The global general
surgery devices market
size
(2021)

\$200 Million



Presence in the Medical
Disposables in Tunisia
(2022)

\$2.4 Million



Per year market
obtainable revenue in
2021

Inbound Marketing Strategy



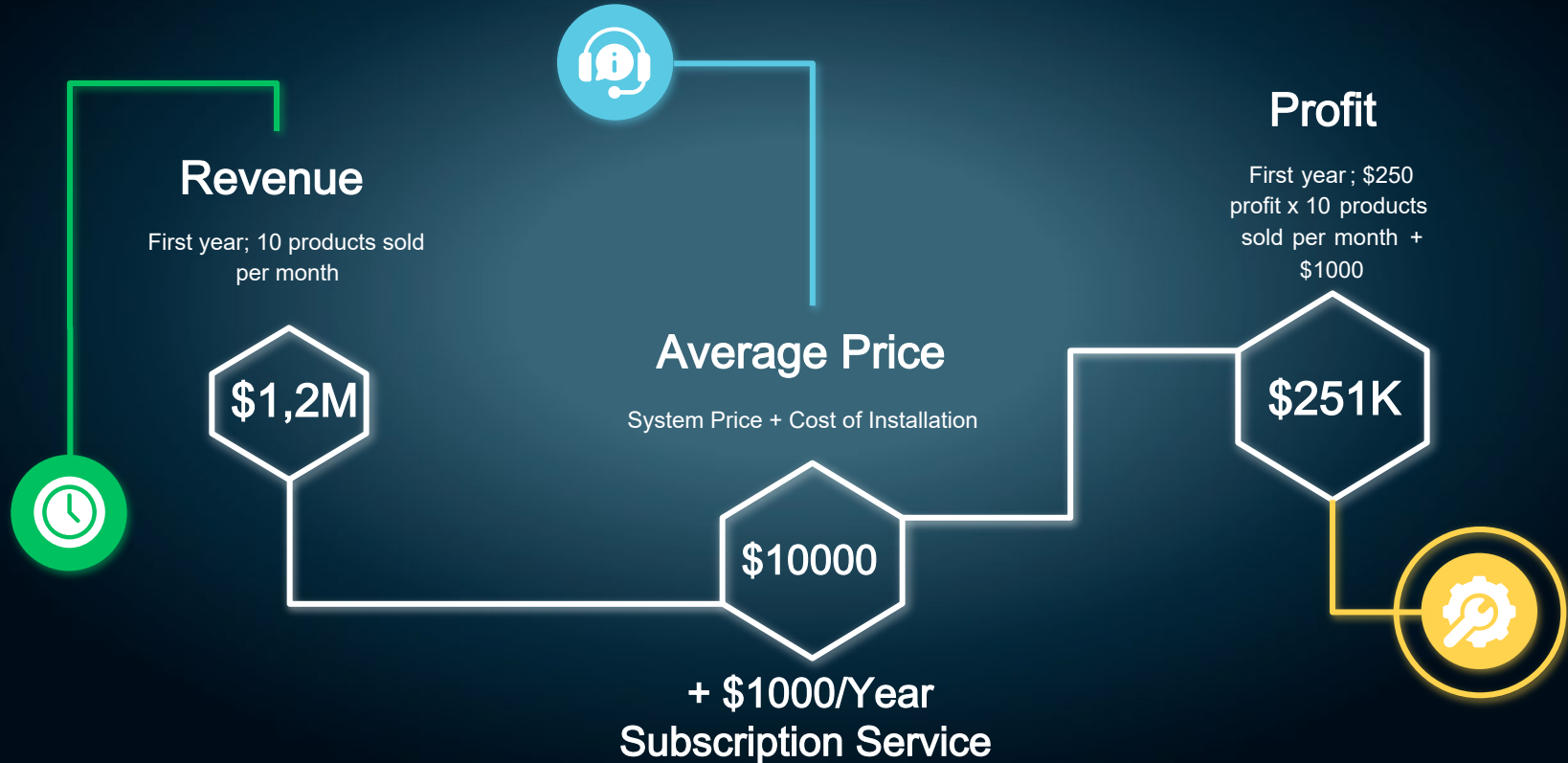
Financing



Project Realization Strategy



Business Model



Business Model Canvas

Key Partner	Key Activities	Value Proposition	Customer Relationships	Customer Segments
<ul style="list-style-type: none">DoctorsInsurance companyCommunication agencySuppliers	<ul style="list-style-type: none">Finding investorsProduct development /productionTesting and collecting doctor/patients feedback	<p>Surgery risk reduction</p> <p>Elimination of time spent manually to plan trajectories and measurements</p> <p>Suppliers: Giving attention to their products and gaining them new clients</p> <p>Surgery assistance/ guidance</p>	<ul style="list-style-type: none"> <p>Doctors direct contact</p>	<p>Hospital and clinic</p> <p>Surgical doctors who works for their own</p>
	<div>Key Resource</div> <ul style="list-style-type: none">Founding Team/ scientific knowledge		<div>Channels</div> <ul style="list-style-type: none">PlatformSocial media (Facebook/Instagram)InfluencersUrban displayMediaEvents.Through doctors experience	
Cost Structure		Revenue Streams		
<ul style="list-style-type: none">SalariesHardware budgetAR interface / Platform / database development		<p>Suppliers Advertisement</p> <p>Rent/sale of the technology</p>		

The Team

Elyes Khechine

Industrial Computing &
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Nawres Arfaoui

Renewable Energy Engineer



Sarah Manai

Electronics Engineer



Malek Sghaier

Mechanical Engineering
Student



**Reach out to
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