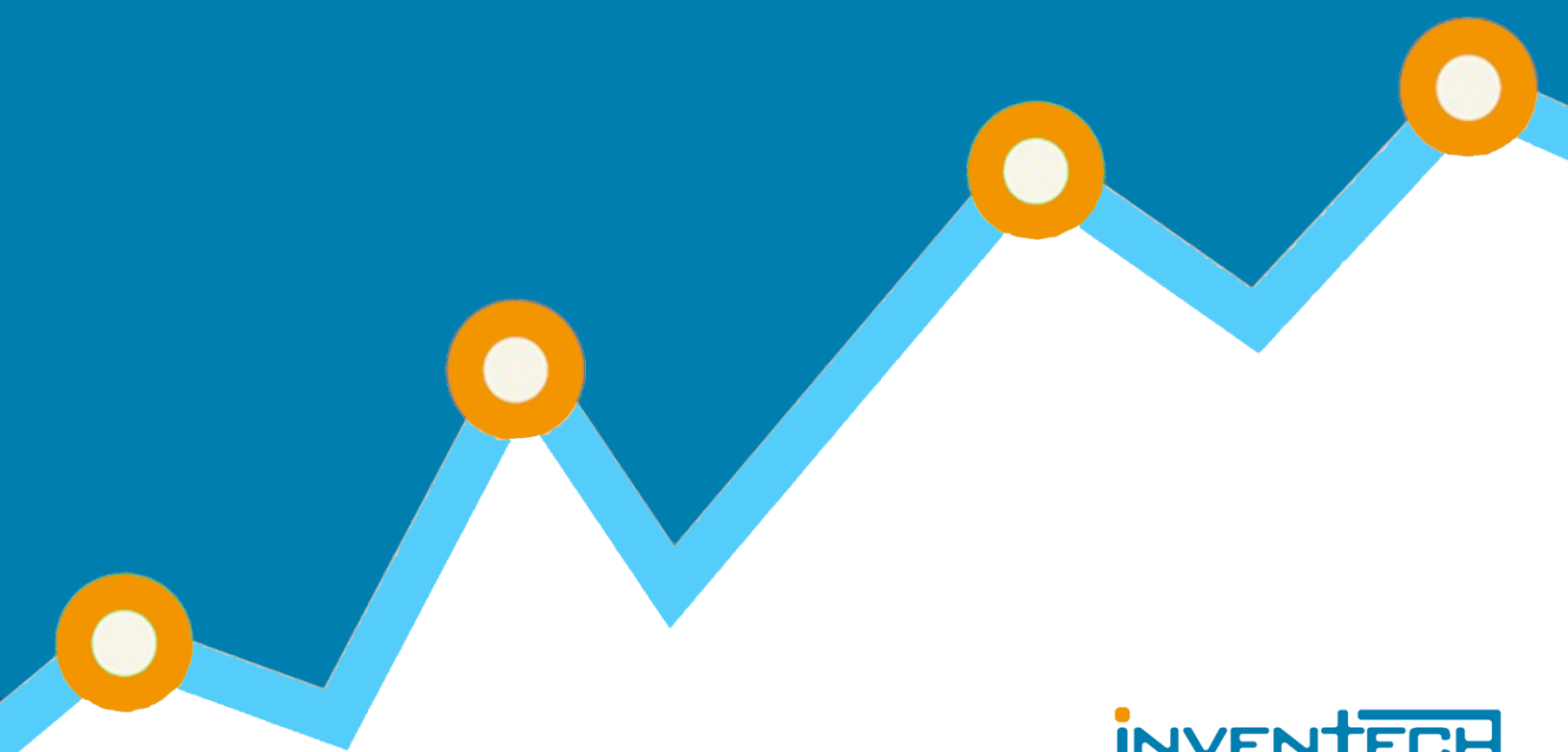
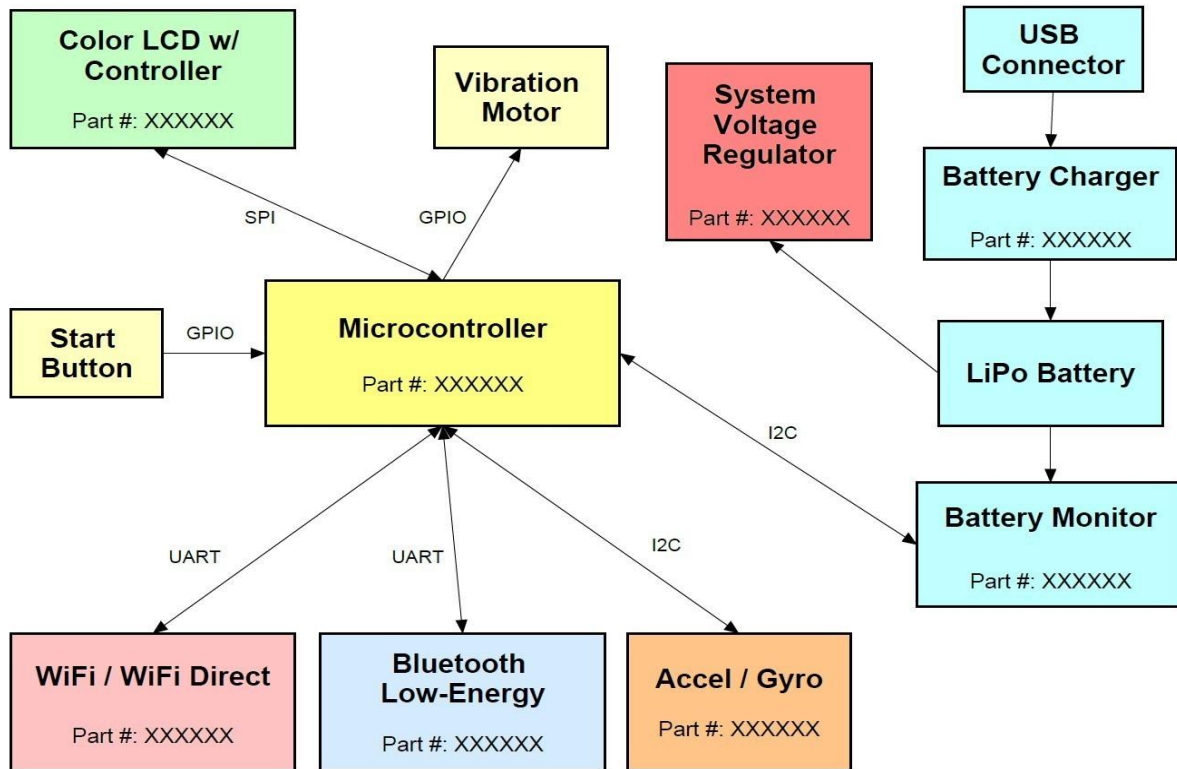


# SAMPLE INVENTECH HARDWARE REPORT



# DETAILED BLOCK DIAGRAM



# MILESTONE TIMELINE

Electronics Development	Estimated Time	Comments
Bread board/Vero board prototyping	X weeks	This is the very first stage of development
Design schematic circuit with Bill of Materials (BOM)	X weeks	
Design printed circuit boards (PCB)	X weeks	
Get Independent Design Review	X weeks	
Order Initial PCB prototypes	X weeks	

Firmware Development	Estimated Time	Comments
Develop firmware and software/app	X weeks	

Testing and Debugging	Estimated Time	Comments
Evaluate, Debug and then revise as necessary	X weeks	

Scaling	Estimated Time	Comments
Get required certifications (FCC, UL, CSA, CE, RoHS) <i>Please note that this is not required in Nigeria</i>	X weeks	

# PRODUCTION COSTS

## Bread board/Vero board Prototyping

Components	Price	Part Number	Comments
Microcontroller	\$ x.000	#xxxxxx	
WiFi	\$ x.000	#xxxxxx	
Bluetooth Low-Energy	\$ x.000	#xxxxxx	
Accel + Gyro	\$ x.000	#xxxxxx	
5" Color TFT LCD w/ controller	\$ x.000	#xxxxxx	

## PCB Fabrication / Assembly (The prices here are subject to the completion of the pcb layout of your device)

Components	Price	Comments
Blank PCB (24mm x 24mm)	\$ x.000	
PCB Assembly	\$ x.000	
	\$ x.000	
Retail Package	\$ x.000	Simple 1-color gift box (hi-end packaging costs ~4x)
Printed Circuit Boards (PCB) Prototypes	\$ x.000	
Assembly of PCB Prototypes	\$ x.000	
Cost of electronic components	\$ x.000	
Printed Circuit Boards (PCB) Prototypes	\$ x.000	
Returns	\$ x.000	
Freight	\$ x.000	
Warehousing	\$ x.000	LCL Sea shipping (10k and 100k only) + LTL trucking
Duties	\$ x.000	
<b>Total Costs</b>	<b>\$xyz.000</b>	

# DEVELOPMENT COSTS

Components	Low	Typical	High	Comments
Bread board/Vero board prototyping	\$500	\$1,000	\$2,000	
Design of schematic diagram + BOM	\$500	\$1,000	\$2,000	
Printed Circuit Board (PCB) Layout	\$500	\$1,000	\$2,000	
Eval/debug/revisions	\$500	\$1,000	\$2,000	All designs require at least a couple revisions
Firmware development + testing	\$500	\$1,000	\$2,000	Programming the “brains” of your product.
<b>Total Cost for Electronics Development</b>	<b>\$4,000</b>	<b>\$8,000</b>	<b>\$16,000</b>	

# CERTIFICATION COSTS

(Not necessary in Nigeria)

	Low	Typical	High	Comments
FCC certification (USA)	\$500	\$1,000	\$2,000	Non-intentional radiator certification
UL / CSA certification (USA / Canada)	\$500	\$1,000	\$2,000	See description of UL/CSA certification below.
CE certification (EU only)	\$500	\$1,000	\$2,000	See description of CE certification below.
RoHS certification (EU & California)	\$500	\$1,000	\$2,000	See description of RoHS certification below.
Bluetooth SIG membership (Licensing fee)**	\$500	\$1,000	\$2,000	Required for products implementing Bluetooth.
<b>Total Cost for Certifications (USA)</b>	<b>\$1,500</b>	<b>\$3,000</b>	<b>\$6,000</b>	<b>Costs vary depending on the country/region.</b>

**FCC (Federal Communications Commission)** certification is required for all electrical products sold in the USA. Products that don't purposefully radiate electromagnetic energy are classified as non-radiators (or that only use modules for wireless functions). Wireless/radio products with custom RF circuits that transmit are classified as intentional radiators.

**UL (Underwriters Laboratories) or CSA (Canadian Standards Association) certification** is required for any electrical product sold in the USA and/or Canada that plugs into an AC electrical outlet. Products running only batteries with no recharging capabilities do not require UL/CSA certification. However, most retail chains and/or product liability insurance companies will require UL/CSA certification. Either certification is sufficient with no need for both.

**CE certification** is required for products sold in the European Union (EU). It is similar to the FCC and UL certifications required in the USA.

**RoHS certification** is required for electrical products sold in the European Union (EU) or California. It certifies the electronics are free of lead. Because California is such a large market, most products sold in the USA are RoHS certified.

\* Certification is only required before you begin selling.

\*\* Bluetooth SIG membership is required even when using a Bluetooth module solution.

# ENGINEERING REVIEW

A detailed written engineering review of your product which includes a risk analysis and suggestions on how to lower both your costs and risk.