# Pervasive Technologies:

## Access to Knowledge in the Market Place

### Device 001: The Classroom in a Box

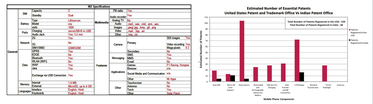
**Price: Rs. 6,300 / $ 113**

Key Features
Pico-Projector
Analog TV Receiver
MS Office Document Viewer

### Device 002: The Supercharger

**Price: Rs. 2,499.00 / $45.00**

Key Features
Solar Panel
Hindi Keyboard



### Device 003: The Networker

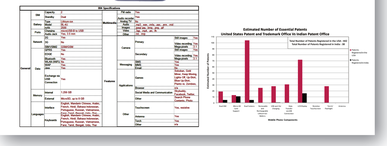
**Price: Rs. 1,250.00 / $22.00**

Key Features
Wi-Fi
Optical Trackpad
Secondary Forward-facing Camera
Support for 8 Languages

### Device 004: The Linguist

**Price: Rs. 2,250.00 / $40.00**

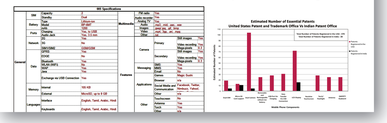
Key Features
Android-like OS
Support for 14 Languages
Secondary Forward-facing Camera
Large Number of Pre-loaded Apps



### Device 005: TV on the Go

**Price: Rs. 1,450.00/ $26.00**

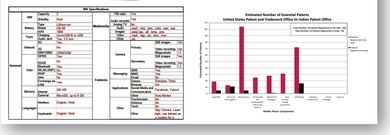
Key Features
Analog TV receiver
Arabic Keyboard
Secondary Forward-facing Camera



### Device 006: The Spy

**Price: Rs. 1,680.00 / $30.00**

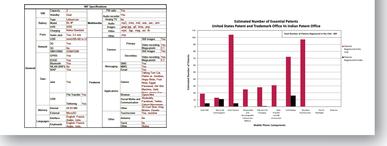
Key Features
Secondary "Spy" Camera
Ability to behave as a
modem via USB connection



### Device 007: The Semi-Smartphone

**Price: Rs. 2,150.00 / $39.00**

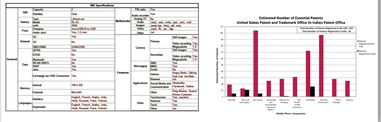
Key Features
Android-like OS (maybe MIUI)
USB Tethering
Push Email



### Device 008: The Trendy

**Price: Rs. 2,350.00 / $42.00**

Key Features
Android-like OS
Support for 9 languages



### Device 009: The Boombox

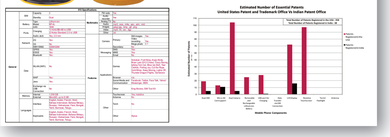
**Price: Rs. 1,420.00 / $26.00**

Key Features
Huge built-in speaker
Android-like OS

### Device 010: 3D

**Price: Rs. 1,440.00 / $26.00**

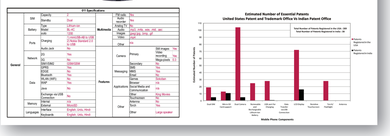
Key Features
Android-like OS
Pre-loaded Stereoscopic (3D) videos
Support for 13 languages



### Device 011: The Mighty Mini

**Price: Rs. 750.00 / $14.00**

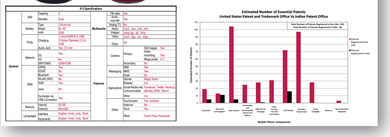
Key Features
Dual GSM SIM support
Best bang-for-your-buck
for a basic mobile phone



### Device 012: The Pianist

**Price: Rs. 1,550.00 / $28.00**

Key Features
Touch piano
Two charging ports
Support for a multitude of audio,
video and image formats



### Device 013: The Indian Experience

**Price: Rs. 2,100.00 / $38.00**

Key Features
India-specific content
Proprietary App Store

## RESEARCH QUESTION

- What policy additions/modifications [IP or otherwise] are necessary to protect sub-100 dollar pervasive technologies in India and across the world?
- Policy at national and international level. Examination of hardware, software and content layers of these devices.

## METHODOLOGY

- Content: Music [Expert Interviews] – Amba Kak
- Hardware [Reverse Engineering and Patent Searches] – Jadine Lannon, Amarjit Singh and Rohan George
- Hardware: Patent Pool Valuation Methodology [Literature Review] - Vikrant Narayan Vasudeva, [Case Study of TD-SCDMA], Nehaa Chaudari, [Social Network Modelling] – Dr. Hans Varghese Mathews
- Hardware: Royalty Caps – Apurba Kundu [Legal analysis of GATT compliance of previous RBI policy]

Under the supervision of Policy Director for Internet Governance and Access to Knowledge – Pranesh Prakash.

## INDIA: ROYALTY AND LICENSE FEES (M$)

Payments

| 1991 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|
| 49.5 | 845.9 | 1,159.8 | 1,528.8 | 1,860.2 | 2,437.5 |

Receipts

| 1991 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|
| 0.6 | 13.4 | 30.6 | 27.2 | 38.1 | 59.5 |

## INITIAL FINDINGS

- Flat fee licensing for streaming, downloads and side-loading.
- Telecom regulation necessary to mitigate large scale fraud by intermediaries.
- Royalty cap in India has been lifted. In China it is being considered. Compliance of royalty caps with international law has to be investigated.
- Voluntary pooling and voluntary licensing is not reducing uncertainity for manufacturers. For ex. LTE
- Pools have to be at the level of the product and not the standard.
- Prima facie there is need for the sub-100$ Patent Pool

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