

# Introduction to ExpEYES Junior

**Spoken Tutorial Project**

<http://spoken-tutorial.org>

**National Mission on Education through ICT**

<http://sakshat.ac.in>

**Madhuri Ganapathi & Kaushik Datta**  
**IIT Bombay**

**22 April 2015**



# Learning Objectives



# Learning Objectives

**We will learn,**



# Learning Objectives

**We will learn,**

- **About ExpEYES Junior device**



# Learning Objectives

We will learn,

- About **ExpEYES Junior** device
- **Features**



# Learning Objectives

We will learn,

- About **ExpEYES Junior** device
- Features
- Buy the device



# Learning Objectives

We will learn,

- About **ExpEYES Junior** device
- Features
- Buy the device
- Installation of the software on different operating systems



# Learning Objectives



# Learning Objectives

**We will also learn to,**



# Learning Objectives

We will also learn to,

- **Connect the device to the system**



# Learning Objectives

We will also learn to,

- Connect the device to the system
- **Demonstrate a simple experiment**



# System Requirement



# System Requirement

- **ExpEYES v 3.1.0**



# System Requirement

- **ExpEYES v 3.1.0**
- **Ubuntu Linux OS v 14.04**



# System Requirement

- **ExpEYES v 3.1.0**
- **Ubuntu Linux OS v 14.04**
- **Andriod v 5.0.2**



# System Requirement

- **ExpEYES v 3.1.0**
- **Ubuntu Linux OS v 14.04**
- **Andriod v 5.0.2**
- **Windows v 7**



# System Requirement

- **ExpEYES v 3.1.0**
- **Ubuntu Linux OS v 14.04**
- **Andriod v 5.0.2**
- **Windows v 7**
- **Firefox browser v 35.0.1**



# Pre-requisites



# Pre-requisites

- **Knowledge of basic high school Physics**



# What is ExpEYES?



# What is ExpEYES?

- **ExpEYES** stands for Experiments for Young Engineers and Scientists



# What is ExpEYES?

- **ExpEYES** stands for Experiments for Young Engineers and Scientists
- Perform basic **Physics & Electronics** experiments



# ExpEYES Junior



# ExpEYES Junior



# ExpEYES Junior



- Small compact rectangular box with dimensions  $8.6 \times 5.8 \times 1.6 \text{ cm}^3$



# ExpEYES Junior



- Small compact rectangular box with dimensions  $8.6 \times 5.8 \times 1.6 \text{ cm}^3$
- Weighs around 60g



# Features



# Features

- **Measure voltages, generates plots and waveforms**



# Features

- **Measure voltages, generates plots and waveforms**
- **Low cost and gives accurate measurements**



# Features

- Measure voltages, generates plots and waveforms
- Low cost and gives accurate measurements
- **Built-in Signal Generator and Oscilloscope**



# Features



# Features

- 12 bit input/output analog resolution



# Features

- 12 bit input/output analog resolution
- **Microsecond timing resolution**



# Features

- 12 bit input/output analog resolution
- Microsecond timing resolution
- **Software is available on Bootable ISO image**



# Software Availability



# Software Availability

- Software of **ExpEYES Junior** is coded in Python



# Software Availability

- Software of **ExpEYES Junior** is coded in Python
- Free and open source



# Software Availability

- Software of **ExpEYES Junior** is coded in Python
- Free and open source
- **Distributed under GNU General Public License**



# Software



**Software works on**



# Software

Software works on

- **GNU/Linux**



## Software works on

- GNU/Linux
- Netbook



## Software works on

- GNU/Linux
- Netbook
- **Android**



## Software works on

- GNU/Linux
- Netbook
- Android
- **Windows**



# Installation

## Ubuntu Linux OS



## NetBook



## Android



# Installation on Android

## Note:

**Ensure wifi or data pack is available  
on Android device**



## Windows OS



# Installation on Windows 8/8.1

## Note:

**Enable unsigned driver installation  
in settings**



# Summary I

We have learnt,

- About **ExpEYES Junior** device
- Features
- Buy the device



# Summary II

- **Install the software on Linux, Netbook, Android & Windows**
- **Connect the device to the system**
- **Demonstrate a simple experiment**



# Assignment

**As an assignment,**

- **Install the software based on your Operating System**



# Design and Development

- **ExpEYES** is designed and developed by **PHOENIX** project of Inter-University Accelerator Centre, New Delhi



# About the Spoken Tutorial Project

- Watch the video available at [http://spoken-tutorial.org/What\\_is\\_a\\_Spoken\\_Tutorial](http://spoken-tutorial.org/What_is_a_Spoken_Tutorial)
- It summarises the Spoken Tutorial project



# About the Spoken Tutorial Project

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- It summarises the Spoken Tutorial project
- If you do not have good bandwidth, you can download and watch it



# Spoken Tutorial Workshops

## The Spoken Tutorial Project Team

- Conducts workshops using spoken tutorials
- Gives certificates to those who pass an online test
- For more details, please write to [contact@spoken-tutorial.org](mailto:contact@spoken-tutorial.org)



# Acknowledgements

- Spoken Tutorial Project is a part of the Talk to a Teacher project
- It is supported by the National Mission on Education through ICT, MHRD, Government of India
- More information on this Mission is available at <http://spoken-tutorial.org/NMEICT-Intro>

