

Alva's Institute of Engineering & Technology

Shobhavana Campus, Mijar, Moodbidri, D.K – 574225

Phone: 08258-262725, Fax: 08258-262726

Department of Electronics and Communication Engineering



A Report on

Introduction to Arduino

Certification Course

2014 -15



Alva's Institute of Engineering & Technology


Shobhavana Campus, Mijar, Moodbidri, D.K - 574225

Phone: 08258-262725, Fax: 08258-262726

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

ACADEMIC CALENDAR FOR THE YEAR 2014-15		
ODD SEMESTER		
Sl	Tentative Date	Activity
1.	15-07-2013	Departmental Meeting 1- Finalizing the Calendar of Events
2.	21-07-2014 to 25-07-2014	Certification course
3.	01-08-2014	Commencement of Odd Semester Classes
4.	22-08-2014	Technical Talk 1
5.	26-08-2014	Technical Talk 2
6.	01-09-2014 to 04-09-2014	Certification course
7.	04-09-2014	Technical Talk 3
8.	11-09-2014 to 13-09-2014	IA-I
9.	20-09-2014	Technical Talk 4
10	09-10-2014	Technical Talk 5
11	13-10-2014 to 15-10-2014	IA-II
12	12-11-2014 to 14-11-2014	IA-III
13	19-11-2014	Last Working Day
14	29-12-2014 to 30-12-2014	FDP
EVEN SEMESTER		
15	01-01-2015	Departmental Meeting 1- Finalizing the Calendar of Events
16	22-01-2015	Commencement of Odd Semester Classes
17	07-02-2015	Technical Talk 1
18	14-02-2015	Technical Talk 2
19	16-02-2015 to 20-02-2015	Certification Course
20	21-02-2015	Technical Talk 3
21	26-02-2015 to 28-02-2015	IA-I
22	24-03-2015	Technical Talk 4
23	24-04-2015 to 25-04-2015	FDP
24	30-04-2015	Final Year Project Exhibition
25	04-05-2015 to 06-05-2015	IA-II
26	14-05-2015	Technical Talk 5
27	18-05-2015 to 20-05-2015	IA-III
28	23-05-2015	Last Working Day


Time Table Coordinator


Head of the Department
Dept. Of Electronics & Communication
Alva's Institute of Engineering & Technology
Mijar, MOODBIDRI - 574225



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DEPT. OF ELECTRONICS & COMMUNICATION ENGINEERING

Ref/ AIET/ECE/CC/2014-15/003

From,

Date: 03-02-2015

Prof. Raghavendra Rao A
Head of the Department
E & C Engineering
Alva's Institute of Engineering and Technology
Moodbidri.

To,

The Principal
Alva's Institute of Engineering and Technology
Moodbidri.

Respected Sir,


Sub: Requisition for Conducting Certification Course for 5 days.


With reference to the above subject, we are planning to conduct a certification course for 2nd year students on the topic "**Introduction to Arduino**" from 16/02/2015 to 20/02/2015 for 5 days.

So I kindly request you to grant the permission for conducting the certification course.

Thanking you

Your's faithfully


Prof. Raghavendra Rao
Head of the Department


Dr. Peter Fernandes
The Principal
AIET Moodbidri.

PRINCIPAL

Alva's Institute of Engg. & Technology,
Mijar, MOODBIDRI - 574 225, D.K



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DEPT. OF ELECTRONICS & COMMUNICATION ENGINEERING

From,

Prof. Raghavendra Rao A
Head of the Department
E & C Engineering
Alva's Institute of Engineering and Technology
Moodbidri.

To,

Mr. Sahanraj
Application Developer
Nuetios Technologies
Mangalore.

Respected Sir,

Sub: Invitation for conducting SDP -Reg

With reference to above subject, Department of E&C Engineering, Alva's Institute of Engineering and Technology, is conducting certification course for ECE 2nd year students on the topic "**Introduction to Arduino**" from 16/02/2015 to 20/02/2015.

Kindly accept this invitation for conducting the certification course and enhance the Technical knowledge of our students.

Thanking you,

Moodbidri
04-02-2015

Yours faithfully,

Prof. Raghavendra Rao

(HOD)

H. O. D.

Dept. Of Electronics & Communication
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225

**ALVA'S INSTITUTE OF ENGINEERING AND
TECHNOLOGY**

**Dept. of Electronics and Communication
Engineering**

*Certification Course
On*

"Introduction to Arduino"

To,

.....
.....

**Dept. of Electronics and Communication
Engineering**

We cordially invite you to the
Certification Course
On

"Introduction to Arduino"

By
Mr. Sahanraj
Application Developer,
Nuetios Technology, Bangalore

Venue: Internet Lab

Date: 16th to 20th February 2015

Mr. Santhosh S
Staff Coordinators

Prof. Raghavendra Rao
HOD

About the Institution

Alva's Institute of Engineering & Technology (AIET) is a premier Engineering Institute of Alva's Education Foundation established in the year 2008.

AIET is recognized by All India Council for Technical Education (AICTE), New Delhi and affiliated to Visvesvaraya Technological University (VTU), Belgaum, approved by Govt. of Karnataka. Ranked as one of the best Technical Institute in Dakshina Kannada region. AIET has established Multi-Disciplinary Research Centers viz Center for Robotics, EMS, CAD Center, Linux Lab.

About the Department

Department of Electronics & Communication was started in the year 2008-09. ECE branch is concerned with the design, development, manufacture and application of electronic devices, circuits and systems. It plays great emphasis on deep understanding of fundamental principles and state of the art knowledge about Electronic Devices and Circuits, Computer Architecture and Microprocessors, VLSI and Embedded

systems, Electromagnetic Field Theory, Analog and Digital Communication, Digital Signal Processing, Microwave and Broadband Communications.

Scope of the Course

This practical course is designed to quickly take students from beginner to basic functional knowledge of the Arduino microcontroller. The Arduino is a versatile resource for physical projects for students in all disciplines. This course brings students over the beginner's threshold to a basic understanding of the use, terminology, and potential of the Arduino.

Course Content

1. Introduction to Arduino
2. Navigating the Arduino integrated development environment (IDE).
3. Using built-in help in the IDE.
4. Downloading firmware to the Arduino
Blinking the LED
5. Variables types
6. Control logic (if/else)
7. Iteration (for loops and while())

RESOURCE PERSON

Mr. Sahanraj
Application Developer,
Nuetios Technology, Bangalore

PROGRAM SCHEDULE

16, February, 2015

Inauguration:	09:00 am to 09:30 am
Session 1:	09:30 am to 01:00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 2:	02:00 pm to 05:00 pm

17, February

Session 3:	09:00 am to 11:00 am
Tea Break:	11:00 am to 11:20 am
Session 3:	11:20 am to 01:00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 4:	02:00 pm to 05:00 pm

18, February

Session 5:	09:00 am to 11:00 am
Tea Break:	11:00 am to 11:20 am
Session 5:	11:20 am to 01:00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 6:	02:00 pm to 05:00 pm

19, February

Session 7:	09:00 am to 11:00 am
Tea Break:	11:00 am to 11:20 am
Session 7:	11:20 am to 01:00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 8:	02:00 pm to 05:00 pm

20, February

Session 9:	09:00 am to 11:00 am
Tea Break:	11:00 am to 11:20 am
Session 9:	11:20 am to 01:00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 10:	02:00 pm to 04:00 pm
Valedictory:	04:00 pm to 05:00 pm



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Department of Electronics and Communication Engineering

Date: 5/02/2015

Circular

It is hereby informed that, the department of ECE is conducting certification course for second year students on the topic "Introduction to Arduino" from 16/02/2015 to 20/02/2015. For further details meet the coordinator.

Coordinator
Mr. Santhosh S

HOD
Prof. Raghavendra Rao



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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

List of students attending Certification course on "Introduction to Arduino"

**It is hereby informed to all the students to attend the session from
9.00am to 5.00pm without fail.**

Sl.No	USN.No	Name of the Student
1	4AL12EC004	Akhina
2	4AL12EC012	Albin Devasia
3	4AL12EC048	Nikil Sreenivas
4	4AL13EC001	A Anirudh Prasad
5	4AL13EC002	Abhishek G A
6	4AL13EC003	Adarsh S Shettigar
7	4AL13EC004	Aishwarya Keni
8	4AL13EC005	Akbarbasha H Nadaf
9	4AL13EC006	Akshatha
10	4AL13EC007	Akshay Kumar Shanbhogue
11	4AL13EC008	Anoop R B
12	4AL13EC009	Asha V
13	4AL13EC010	Ashwal P R
14	4AL13EC012	Atmanand Holeyannavar
15	4AL13EC013	Balaji Sadashiv Shettigar
16	4AL13EC014	Bhagyashree
17	4AL13EC015	Bindu Patil B S
18	4AL13EC016	Charitha S T
19	4AL13EC017	Charith Kumar
20	4AL13EC018	Christeena T J
21	4AL13EC019	D Nootana
22	4AL13EC020	Deekshitha Coelho
23	4AL13EC021	Deepak Kamal
24	4AL13EC022	Deepika
25	4AL13EC023	Devaki Patil
26	4AL13EC024	Dhanush K A
27	4AL13EC025	Harshitha S
28	4AL13EC026	Inchara P
29	4AL13EC027	Jayashree V
30	4AL13EC028	Jeeshan I N



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31	4AL13EC029	Jishnu Mulachan
32	4AL13EC030	Jyothi Shetty
33	4AL13EC031	Kadappa Jakkannavar
34	4AL13EC032	Kiran M
35	4AL13EC033	Kirana M N
36	4AL13EC034	Krishna Handenavar
37	4AL13EC035	Lakshmi Sagar K N
38	4AL13EC037	Madhushree S
39	4AL13EC038	Manali Jain
40	4AL13EC039	Manasa K Mogera
41	4AL13EC040	Manaswitha M Shetty
42	4AL13EC041	Manjunatha
43	4AL13EC042	Maruthi
44	4AL13EC043	Meghana B V
45	4AL13EC044	Muktha V
46	4AL13EC045	Nagaveni A Mallur
47	4AL13EC046	Navneet Bhargavan Nambiar
48	4AL13EC048	Nikitha J
49	4AL13EC049	Nischitha Charanya
50	4AL13EC050	Nithesh J
51	4AL13EC051	Pattam Joshna Ramesh
52	4AL13EC052	Pavankumar K Devareddy
53	4AL13EC053	Pavan Kumar R
54	4AL13EC054	Pooja
55	4AL13EC055	Pooja
56	4AL13EC056	Pooja Ashok Melavanki
57	4AL13EC058	Prashanth S
58	4AL13EC059	Prathiksha
59	4AL13EC060	Praveen Kumar C
60	4AL13EC061	Priya P B
61	4AL13EC062	Raksha Satish


Coordinator


Prof. Raghavendra Rao A
Head of the Department
H. O. D.
Dept. Of Electronics & Communication
Alva's Institute of Engg & Technology
Mijar, MOODBIDRI - 574 225



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IV- Semester Attendance for certification course on "Introduction to Arduino" (2014-15)

#	USN. No	Name of the Student	16/2	16/2	17/2	17/2	18/2	18/2	19/2	19/2	20/2	20/2
1	4AL12EC004	Akhina	1	2	3	4	5	6	7	8	9	10
2	4AL12EC012	Albin Devasia	1	2	3	4	5	6	7	8	A	9
3	4AL12EC048	Nikil Sreenivas	1	2	3	4	5	6	7	8	9	10
4	4AL13EC001	A Anirudh Prasad	1	A	2	3	4	5	6	7	8	9
5	4AL13EC002	Abhishek G A	1	2	3	4	5	6	7	8	9	10
6	4AL13EC003	Adarsh S Shettigar	1	2	3	4	5	6	7	8	9	10
7	4AL13EC004	Aishwarya Keni	1	2	3	4	5	6	7	8	9	10
8	4AL13EC005	Akbarbasha H Nadaf	1	2	3	4	5	6	7	8	9	10
9	4AL13EC006	Akshatha	1	2	3	4	5	A	6	7	8	9
10	4AL13EC007	Akshay Kumar Shanbhogue	1	2	3	4	5	6	7	8	9	10
11	4AL13EC008	Anoop R B	1	2	3	4	5	6	7	8	9	10
12	4AL13EC009	Asha V	1	2	3	4	A	5	6	7	8	9
13	4AL13EC010	Ashwal P R	1	2	3	4	5	6	7	8	9	10
14	4AL13EC012	Atmanand Holeyannavar	1	2	3	4	5	6	7	8	9	10
15	4AL13EC013	Balaji Sadashiv Shettigar	1	2	3	4	5	6	7	8	9	10
16	4AL13EC014	Bhagyashree	1	2	3	4	5	6	7	8	9	10
17	4AL13EC015	Bindu Patil B S	1	2	3	4	5	6	7	8	9	10
18	4AL13EC016	Charitha S T	1	2	3	4	5	6	7	8	9	10
19	4AL13EC017	Charith Kumar	1	2	3	4	5	6	7	8	9	10
20	4AL13EC018	Christeena T J	1	2	A	3	4	5	6	7	8	9



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21	4AL13EC019	D Nootana	1	2	3	4	5	6	7	8	9	10
22	4AL13EC020	Deekshitha Coelho	A	1	2	3	4	5	6	7	8	9
23	4AL13EC021	Deepak Kamal	1	2	3	4	5	6	7	8	9	10
24	4AL13EC022	Deepika	1	2	3	4	5	6	7	8	9	10
25	4AL13EC023	Devaki Patil	1	2	3	4	5	6	7	8	9	10
26	4AL13EC024	Dhanush K A	1	2	3	4	5	6	7	8	9	10
27	4AL13EC025	Harshitha S	1	2	3	4	5	6	7	8	9	10
28	4AL13EC026	Inchara P	1	2	3	4	5	6	7	8	9	10
29	4AL13EC027	Jayashree V	1	2	3	4	5	6	7	8	9	10
30	4AL13EC028	Jeeshan I N	1	2	3	4	5	6	7	8	9	10
31	4AL13EC029	Jishnu Mulachan	1	2	3	4	5	6	7	8	9	10
32	4AL13EC030	Jyothi Shetty	1	2	3	4	5	6	7	8	9	10
33	4AL13EC031	Kadappa Jakkannavar	1	2	3	4	5	6	7	8	9	10
34	4AL13EC032	Kiran M	1	2	A	B	C	D	E	F	G	H
35	4AL13EC033	Kirana M N	1	2	3	4	5	6	7	8	9	10
36	4AL13EC034	Krishna Handenavar	1	2	3	4	5	6	7	8	9	10
37	4AL13EC035	Lakshmi Sagar K N	1	2	3	4	5	6	7	8	9	10
38	4AL13EC037	Madhushree S	1	2	3	4	5	6	7	8	9	10
39	4AL13EC038	Manali Jain	1	2	3	4	5	6	7	8	9	10
40	4AL13EC039	Manasa K Mogera	1	2	3	4	5	6	7	8	9	10
41	4AL13EC040	Manaswitha M Shetty	1	2	3	4	5	6	7	8	9	10
42	4AL13EC041	Manjunatha	1	2	3	4	5	6	7	8	9	10
43	4AL13EC042	Maruthi	1	A	2	3	4	5	6	7	8	9




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44	4AL13EC043	Meghana B V	1	2	3	4	5	6	7	8	9	10
45	4AL13EC044	Muktha V	1	2	3	4	5	6	A	7	8	9
46	4AL13EC045	Nagaveni A Mallur	1	2	3	4	5	6	7	8	9	10
47	4AL13EC046	Navneet Bhargavan Nambiar	1	2	3	4	5	6	7	8	9	10
48	4AL13EC048	Nikitha J	1	2	3	4	5	6	7	8	9	10
49	4AL13EC049	Nischitha Charanya	1	2	3	4	5	6	7	8	A	9
50	4AL13EC050	Nithesh J	1	2	A	3	4	5	6	7	8	9
51	4AL13EC051	Pattam Joshna Ramesh	1	2	3	4	5	6	7	8	9	10
52	4AL13EC052	Pavankumar K Devareddy	1	2	3	4	5	6	7	8	9	10
53	4AL13EC053	Pavan Kumar R	1	2	3	4	5	6	7	8	9	10
54	4AL13EC054	Pooja	1	2	3	4	5	6	7	8	9	10
55	4AL13EC055	Pooja	1	2	3	4	5	6	7	8	9	10
56	4AL13EC056	Pooja Ashok Melavanki	1	2	3	4	5	A	6	7	8	9
57	4AL13EC058	Prashanth S	1	2	3	4	5	6	7	8	9	10
58	4AL13EC059	Prathiksha	1	2	3	4	5	6	7	8	9	A
59	4AL13EC060	Praveen Kumar C	1	2	3	4	5	6	7	8	9	10
60	4AL13EC061	Priya P B	1	2	3	4	5	6	7	8	9	10
61	4AL13EC062	Raksha Satish	1	2	3	4	5	6	7	8	9	10


Coordinator


Prof. Raghavendra Rao A
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ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

(Affiliated to VTU, Belgaum, Recognized by AICTE New Delhi)
Shobhavana Campus, Mijar, Moodbidri DK Karnataka-574225

Department of Electronics and Communication Engineering

Certificate

*This is to certify that Mr./Ms.....bearing the USN
..... of Semester, has attended the Certification
Course on “**Introduction to Arduino**” from 16th February 2015 to 20th February
2015 held at Alva's Institute of Engineering and Technology, Moodbidri.*

Mr. Sahanraj,
Application Developer, Nuetios
Technologies, Mangalore

Prof. Raghavendra Rao
Head of the Department
ECE, AIET

Dr. Peter Fernandes
Principal
AIET Moodbidri



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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

REPORT

Certification course on "Introduction to Arduino" was organized by Electronics and Communication Department, from 16-02-2015 to 20-02-2015 for 2nd year students by Mr. Sahanraj, Application Developer, Nuetios Technologies & Aadhyaa Studios, Mangalore. He compared the Arduino boards with the other equivalent boards available to design web. Then he gave exposure on JavaScript and its usage in developing web related programs. He also elaborated the ideas about how to tweet and update own messages in twitter social network along with the hands on.

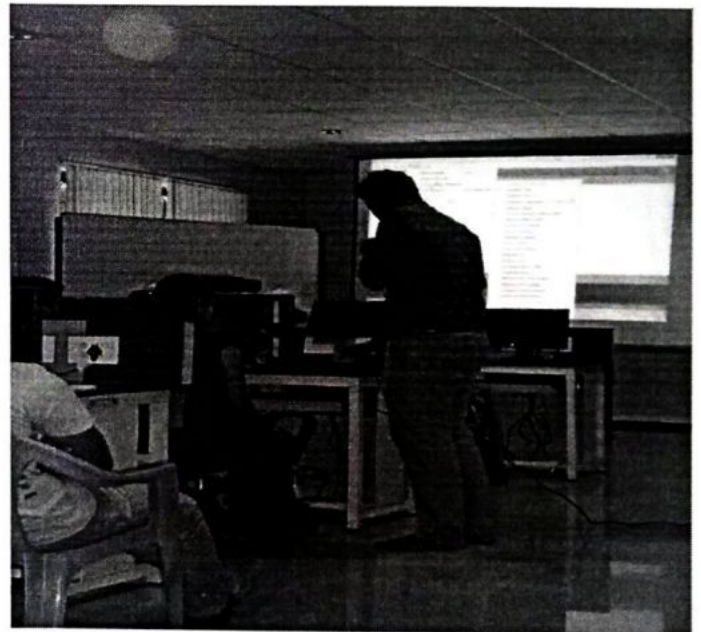


Figure: Certification course on "Introduction to Arduino"



Introduction to Arduino - Test

1. _____ are pre built circuit boards that fit on top of Android.
A. Sensor
B. Data types
C. Breadboard
D. Shields
2. What does IDE stand for?
A. In Deep Environment
B. Integrated Development Environment
C. Internal Deep Escape
D. IDE
3. Which board is first to use microcontroller with in build USB?
A. LilyPad
B. UNO
C. RedBoard
D. Leonardo
4. A function is a series of programming statements that can be called by name. Which command is called once when the program starts:
A. loop()
B. setup()
C. (output)
D. (input)
5. What is wrong with the following
/*Turns on an LED on for one second, then off for one second, repeatedly.
This example code is in the public domain.*/


```
int led = 13;  
void setup() {  
  pinMode(led, INPUT);  
}  
void loop() {  
  digitalWrite(led, HIGH);  
  delay(1000);  
  digitalWrite(led, LOW);  
  delay(1000);  
}
```


A. All the code
B. Void
C. High and Low
D. Low and High
6. A program written with the IDE for Arduino is called _____



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-
- A. IDE source
C. Cryptography
- B. Sketch
D. Source code
7. How many types of arduinos do we have?
- A. 5
C. 8
- B. 6
D. 4
8. What is the default bootloader of the Arduino UNO?
- A. Optiboot bootloader
C. Bare box
- B. AIR-boot
D. GAG
9. How many digital pins are there on the UNO board?
- A. 14
C. 12
- B. 16
D. 20
10. Which is the software or a programming language used for controlling of Arduino?
- A. Assembly Language
C. JAVA
- B. C Languages
D. Any Language
11. What does this line of code do? `counter++;`
- A. Increment counter by an amount that depends on its definition.
C. Adds 1 to the variable counter
- B. This is not a legal statement in the Arduino language.
D. Returns true if the variable counter has a positive value.
12. What is the index of the letter F in this array? `char textMessage[] = "Have Fun with Arduino";`
- A. 5
C. 4
- B. 6
D. 'F'
13. How many elements are in the array? `char textMessage[] = "Have Fun with Arduino";`
- A. 20
C. 22
- B. 21
D. The statement is not a legal Arduino program statement.



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14. What does this line of code do? `temp = !temp;`

A. Sets the variable temp to its logical compliment.

B. Converts the variable temp to a boolean value.

C. The line is not a legal Arduino statement.

D. None of the above



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

FEEDBACK FORM

Five days Student Training Program

On

"Introduction to Arduino"

For the following areas, please indicate your rating from 1 to 5:

1=strongly Disagree 2=Disagree 3=neither agree nor disagree 4=Agree 5=strongly Agree

S N	Topics	1	2	3	4	5
A.	Content					
1	Understood the basics of Arduino.				✓	
2	Understood the concept of Arduino integrated development environment (IDE).				✓	
3	Able to analyze Arduino using the built-in help in the IDE.				✓	
4	Understood the firmware to the Arduino Blinking the LED.				✓	
5	Able to understand Control logic of Arduino.				✓	
B	Presentation					
6	Instructor's knowledge					✓
7	Instructor's presentation style					✓
8	Instructor covered material clearly					✓
9	Instructor responded well to questions					✓
10	Instructor facilitated interactions among participants well					✓
C. How could this workshop be improved? <i>Move projects demonstration required.</i>						
D. Any other comments or suggestions?						
E. Overall, how would you rate this workshop?						
<input type="checkbox"/>	Poor	<input checked="" type="checkbox"/>			Good	
<input type="checkbox"/>	Neither Good Nor Poor	<input type="checkbox"/>			Excellent	