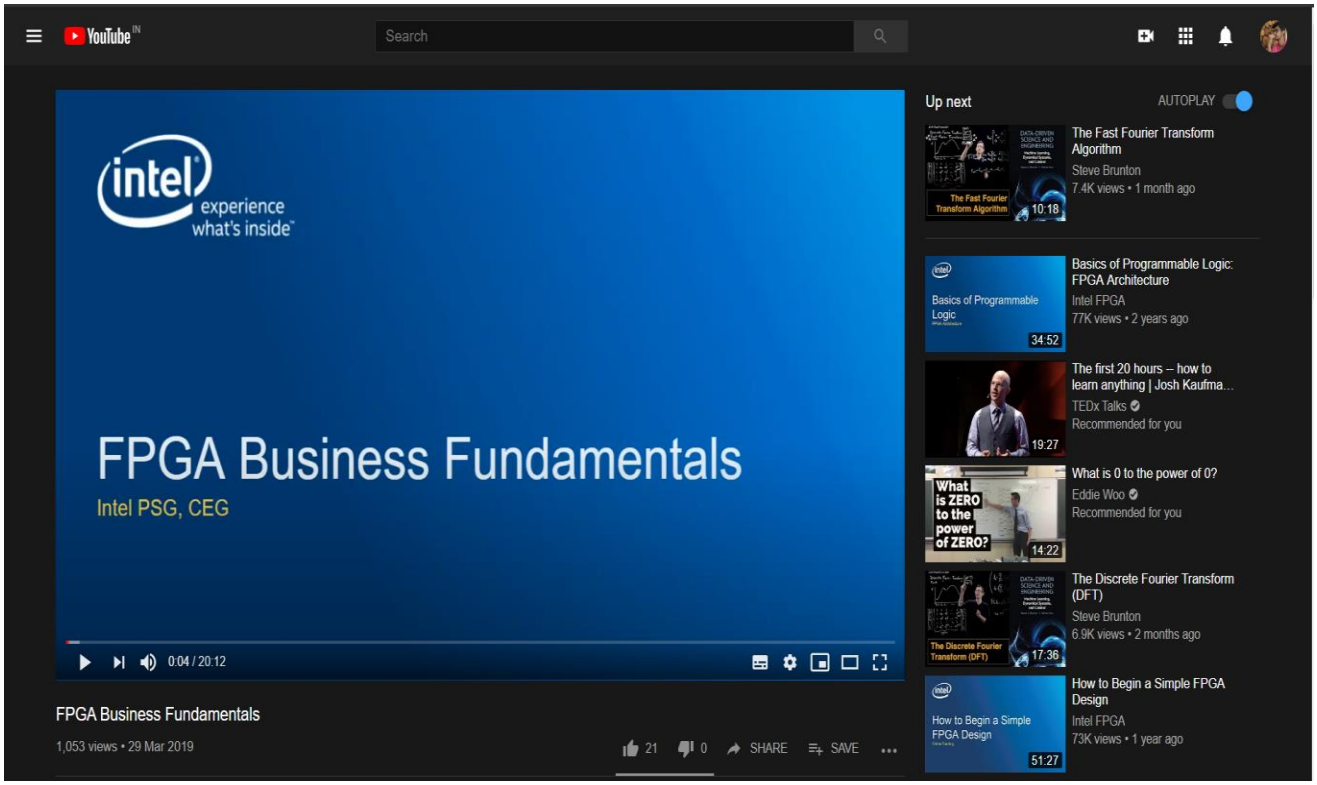
DAILY ASSESSMENT REPORT

Date:	**01 June 2020**	**Name:**	**Gagan M K**
Course:	**DIGITAL DESIGN USING HDL**	**USN:**	**4AL17EC032**
Topic:	• Industry Applications of FPGA • FPGA Business Fundamentals • FPGA vs ASIC Design Flow • FPGA Basics – A Look Under the Hood	**Semester & Section:**	**6th sem & 'A' sec**
Github Repository:	**Alvas-education-foundation/Gagan-Git**		

FORENOON SESSION DETAILS
Image of session



Report – Report can be typed or hand written for up to two pages.

Industry Applications of FPGA:

- **The impact of new FPGA features in industrial applications is analyzed in detail in three main areas, namely digital real-time simulation, advanced control techniques, and electronic instrumentation, with focus on mechatronics, robotics, and power systems design.**

FPGA vs ASIC Design Flow:

	FPGA	ASIC
NRE	✓	
Performance		✓
Time to market	✓	
Design Flow	✓	
Cost per Unit (High volume)		✓
Barrier to Entry	✓	
Energy Efficiency		✓
Analog Blocks		✓

Write a verilog code to implement NAND gate in all different styles:

1. Gate Level Code:

```
module NAND_2_gate_level(output Y, input A, B);
    wire Yd;
    and(Yd, A, B);
    not(Y, Yd);
endmodule
```

2. Data Flow Code:

```
module NAND_2_data_flow (output Y, input A, B);
    assign Y = ~(A & B);
endmodule
```

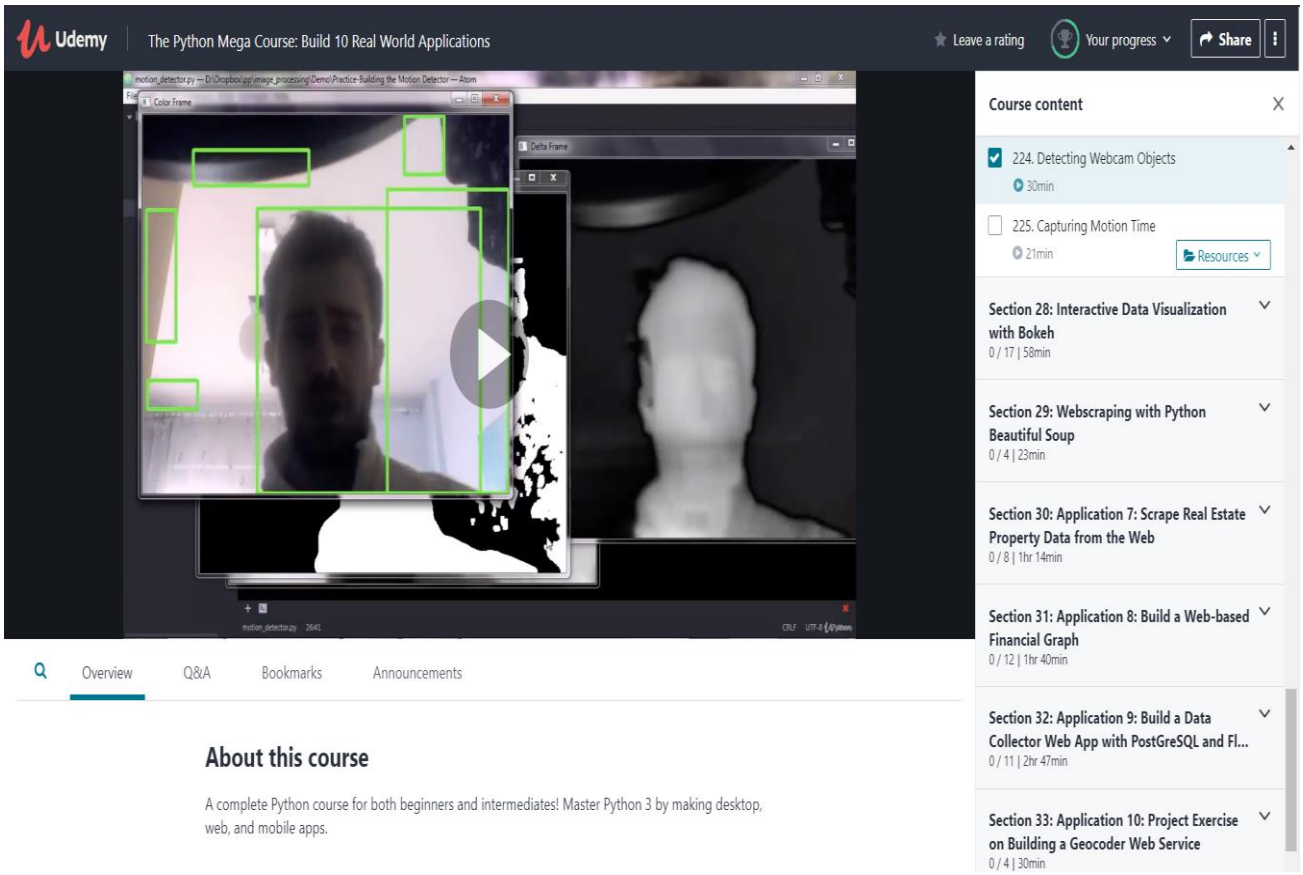
3. Behavioral Modelling code:

```
module NAND_2_behavioral (output reg Y, input A, B);
always @ (A or B) begin
    if (A == 1'b1 & B == 1'b1) begin
        Y = 1'b0;
    end
    else
        Y = 1'b1;
end
endmodule
```

Date:	01 June 2020	Name:	Gagan M K
Course:	The Python Mega Course	USN:	4AL17EC032
Topic:	Application 6: Build a Webcam Motion Detector	Semester & Section:	6th sem & 'A' sec

AFTERNOON SESSION DETAILS

Image of session:



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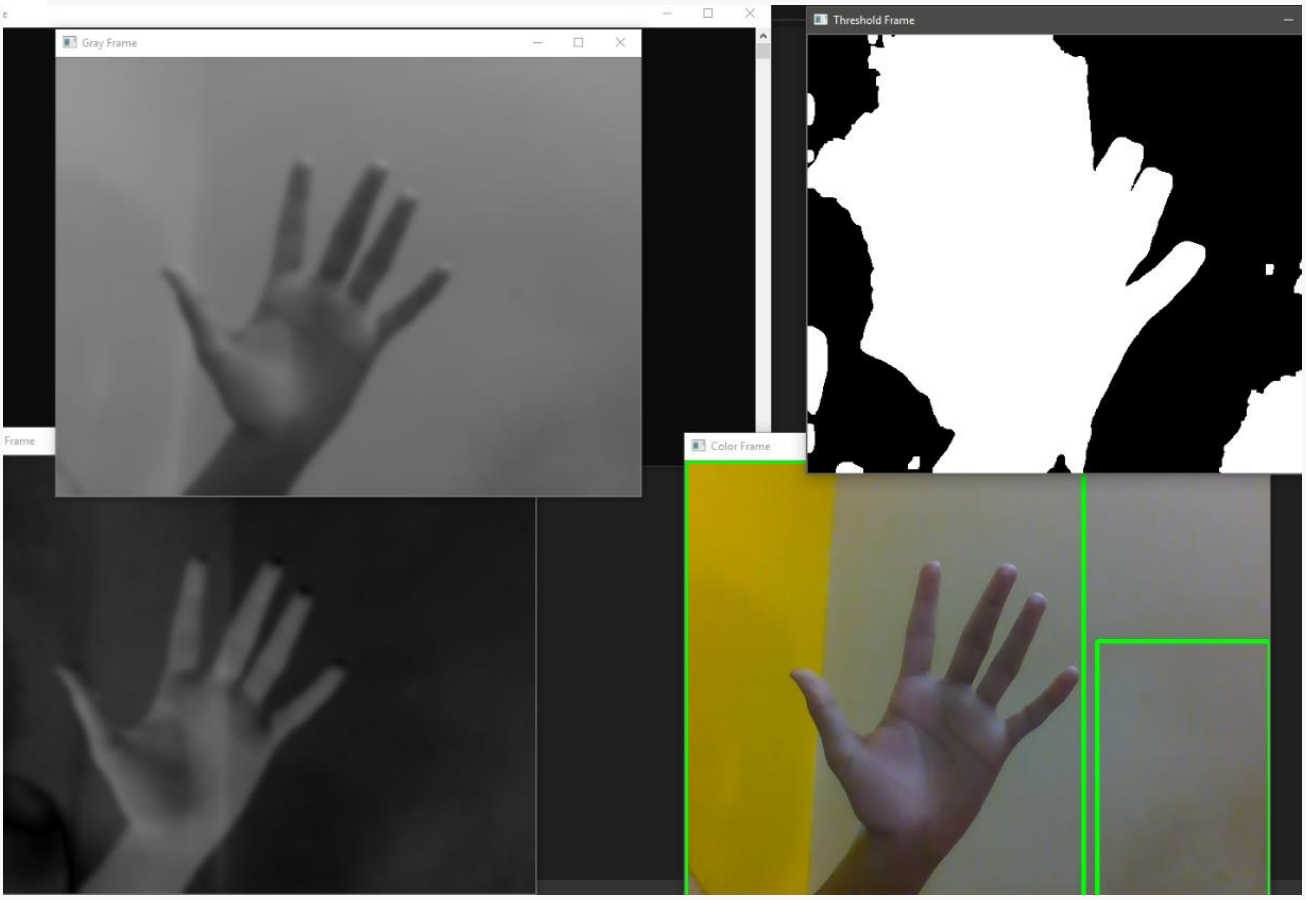
Build a Webcam Motion Detector:

- **In this Application we learnt about building a Webcam Motion Detector.**
- **Creating Gray scale images and converting it into white and black.**
- **Also having raw colored images to detect motion.**
- **When motion is detected it starts noting the time at which the motion is detected.**
- **And that time and date is stored in excel file.**



- **Time at which motion was detected and saved in excel sheet is shown below.**

A	B	C
	Start	End
0	37:53.7	37:59.4
1	37:59.9	37:59.9
2	38:03.1	38:04.2
3	38:06.0	38:07.1
4	38:08.9	38:10.0
5	38:10.7	38:14.8

RPA(Robotic Process Automation) Certificate:

- **The above mention course was interesting and useful.**
- **Got to learn about UiPath tool for academic purpose.**
- **Learnt basic robot building like “Helloworld”**
- **Also learnt to build basic automated bot to search movies in various websites.**