江西理工大学 信息工程学院
JIANGXI UNIVERSITY OF SCIENCE AND TECHNOLOGY SCHOOL OF INFORMATION ENGINEERING

Mobile application development

移动应用开发

Lecture 013:
APP Inventor_enviroment
Clock/ Time/Date

Dr Ata Jahangir Moshayedi

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Autumn _2021

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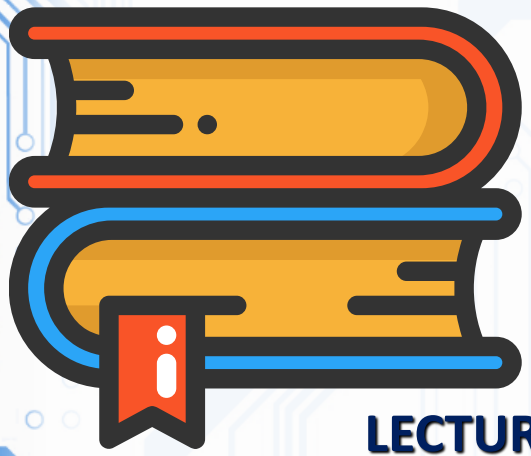

MOBILE APPLICATION DEVELOPMENT

LECTURE 013: APP Inventor_enviroment

Clock/ Time/Date

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App Inventor

Agenda

Clock/ Time/Date

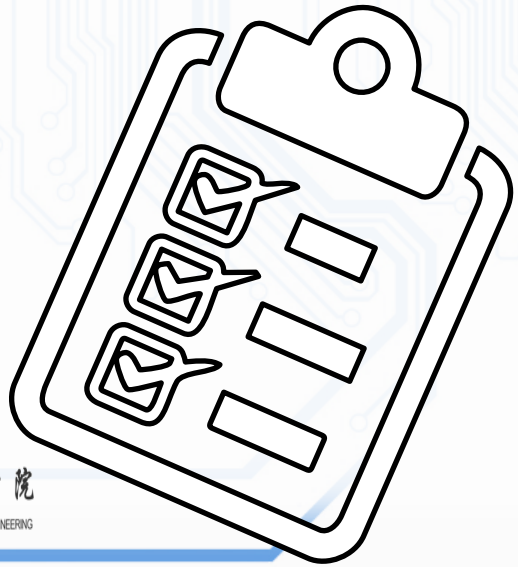
Practical Example 1: Clock. Timer. Flashing colors on the screen.

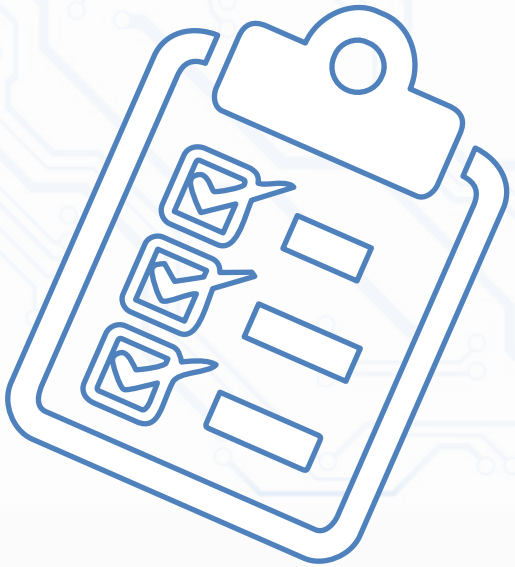
Practical Example 2: Clock. Traffic light.

Practical Example 3& 4: Demo and run

Practical Example 5: Set /Change the time and date

Practical Example 6: The TimePicker and DatePicker User Interface Controls





MOBILE APPLICATION DEVELOPMENT

Practical Example 1:

Clock. Timer.

Flashing colors on the screen.

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Practical Example 1:

Clock. Timer. Flashing colors on the screen.

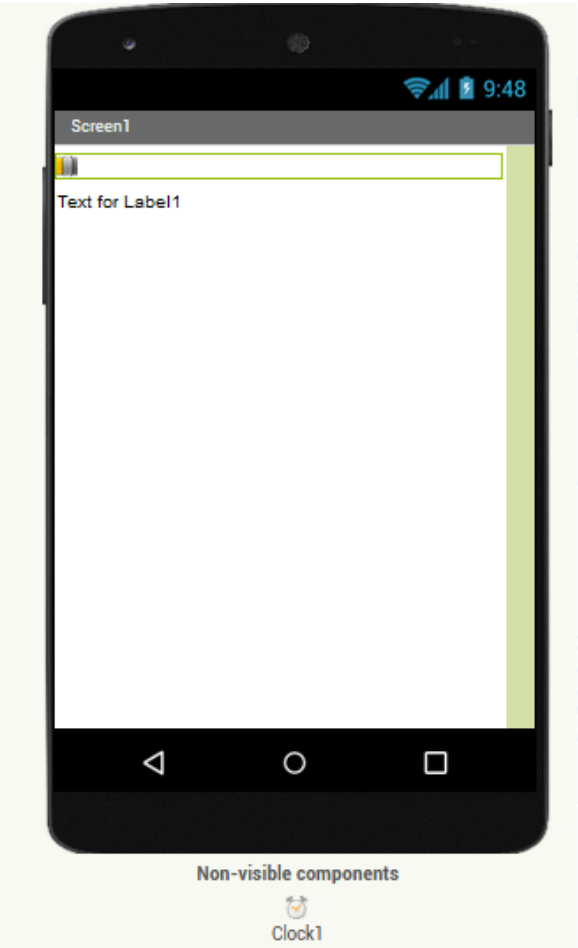
- Moving the **Slider** to set a new **interval** in the **Clock** (timer) so that it will act each that time.

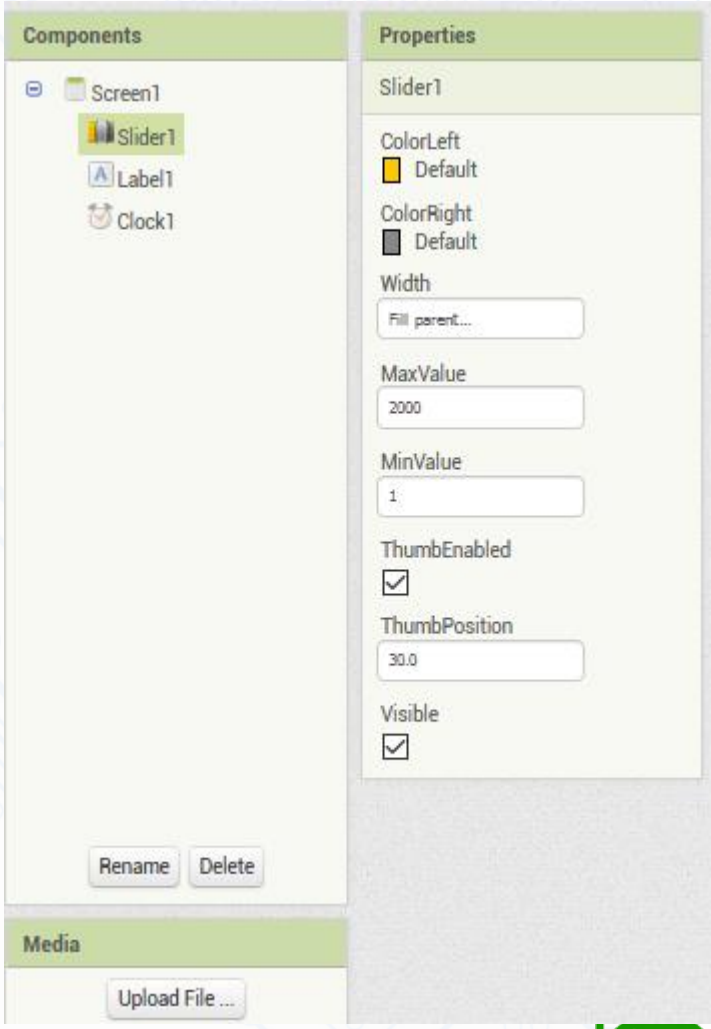
- When acting the **clock** three random numbers from 1 to 255, are created corresponding to each of the basic colors.

- The sum of these colors is presented as Background color of the screen.

Practical Example 1:

Clock. Timer. Flashing colors on the screen.

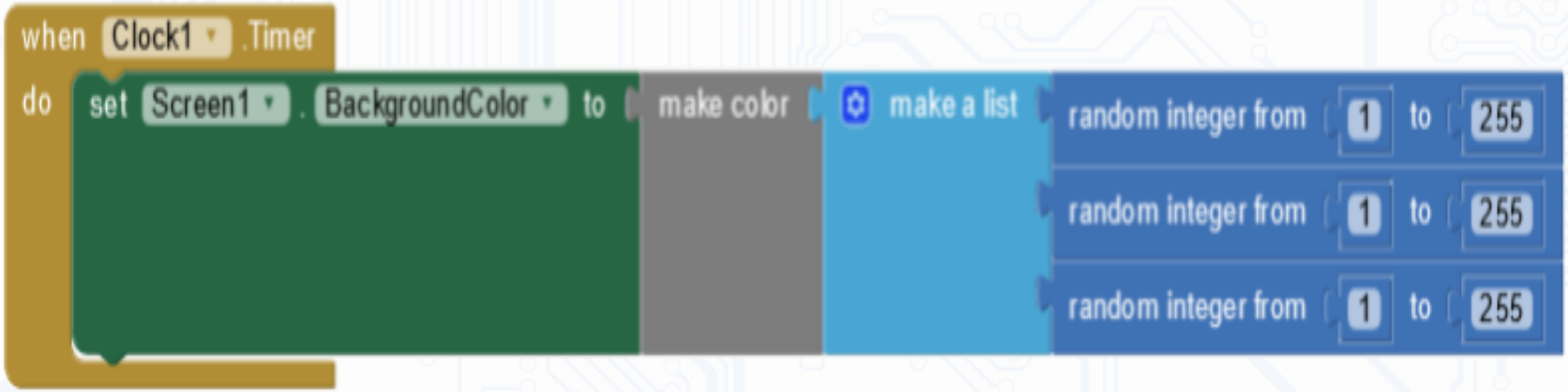




Practical Example 1:

Clock. Timer. Flashing colors on the screen.

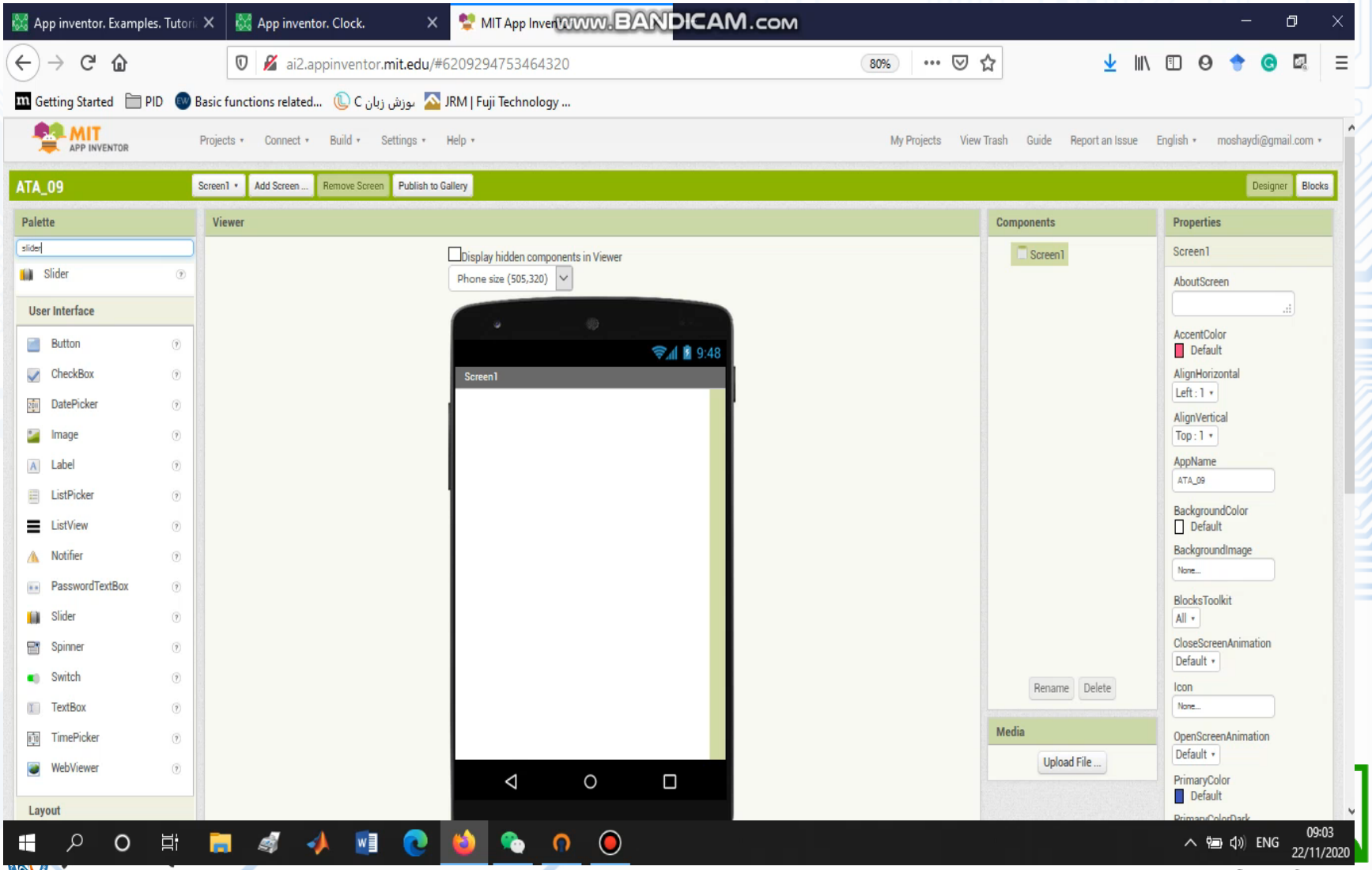
Block section



Practical Example 1:

Clock. Timer. Flashing colors on the screen.

Design section

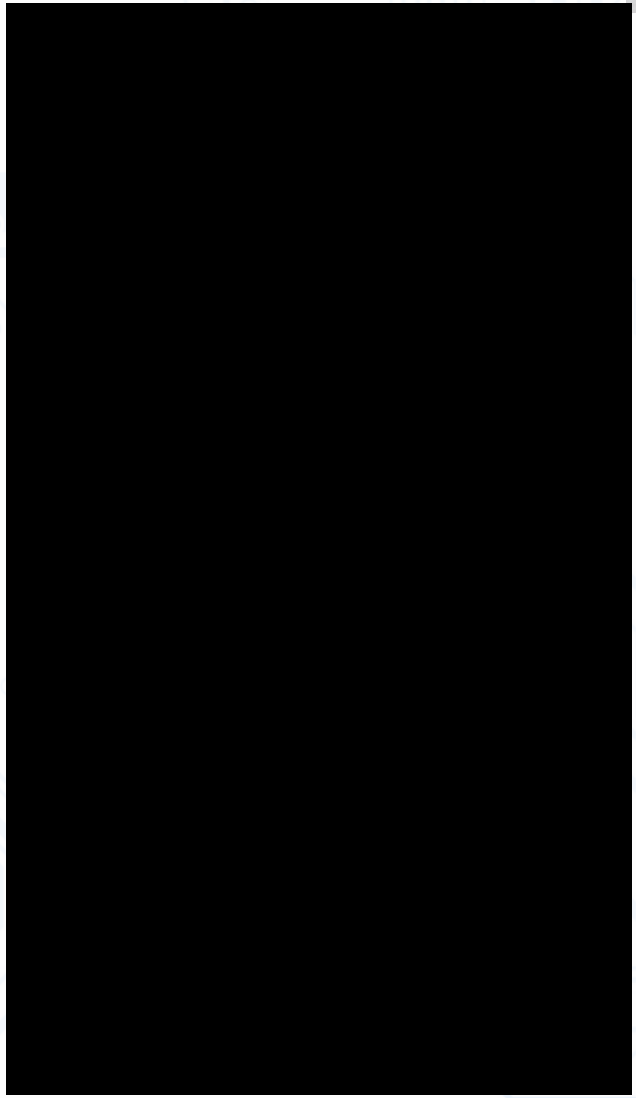


Practical Example 1:

Clock. Timer. Flashing colors on the screen.

Design section

Demo #1:
The error in performance



Practical Example 1:

Clock. Timer. Flashing colors on the screen.

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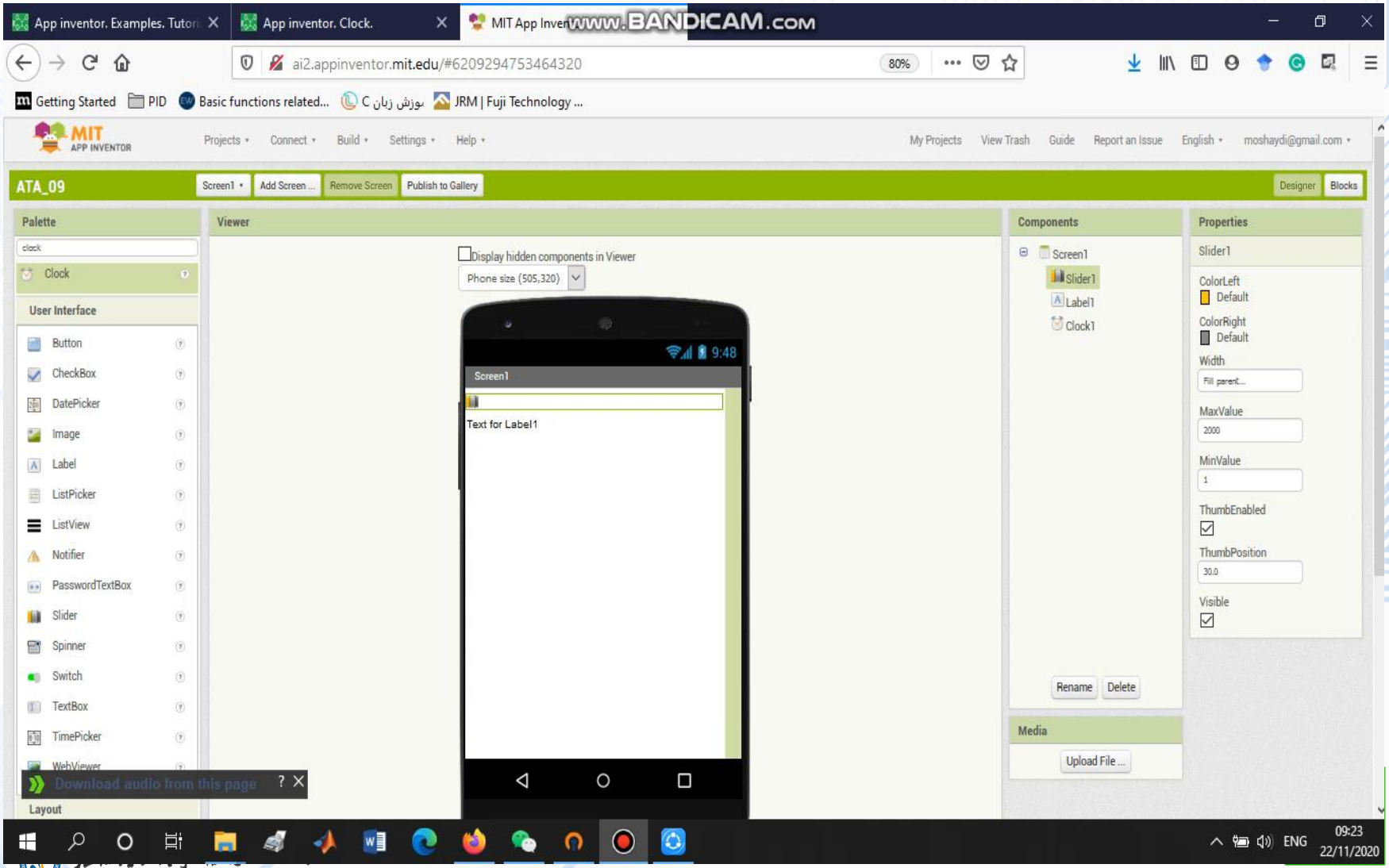
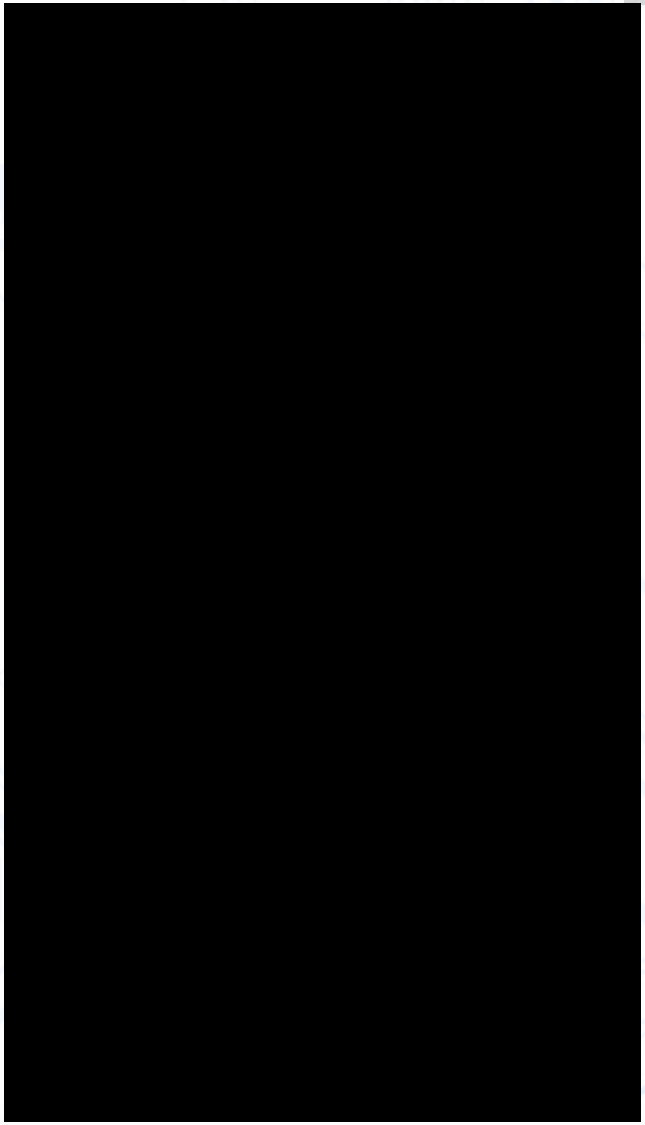


Practical Example 1:

Clock. Timer. Flashing colors on the screen.

Design section

Demo after correction



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MOBILE APPLICATION DEVELOPMENT

Practical Example 2:

Clock. Traffic light.

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Practical Example 2:

Clock. Traffic light.

Design section

- We place one **Canvas. Width: Fill parent, and Height: 400 pixel.**
- - **Three balls** (50, 10) (50, 90) (50.170). Radio: 40
- - A **Slider** with values between **MinValue 1 and MaxValue 200**

Block section

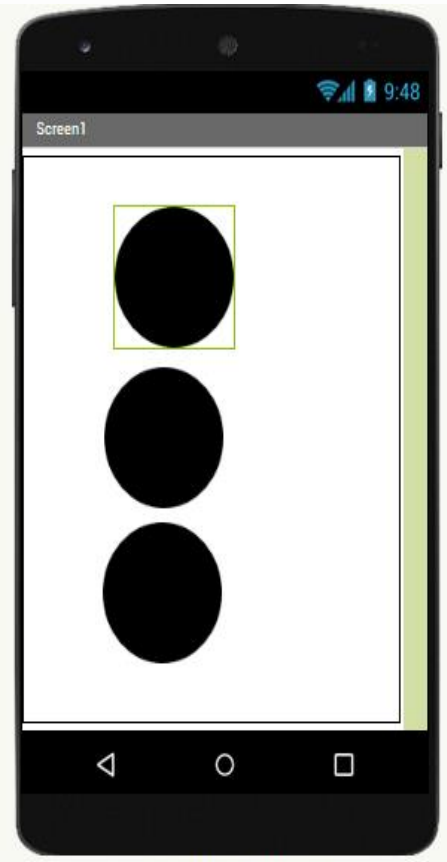
Variable: Add

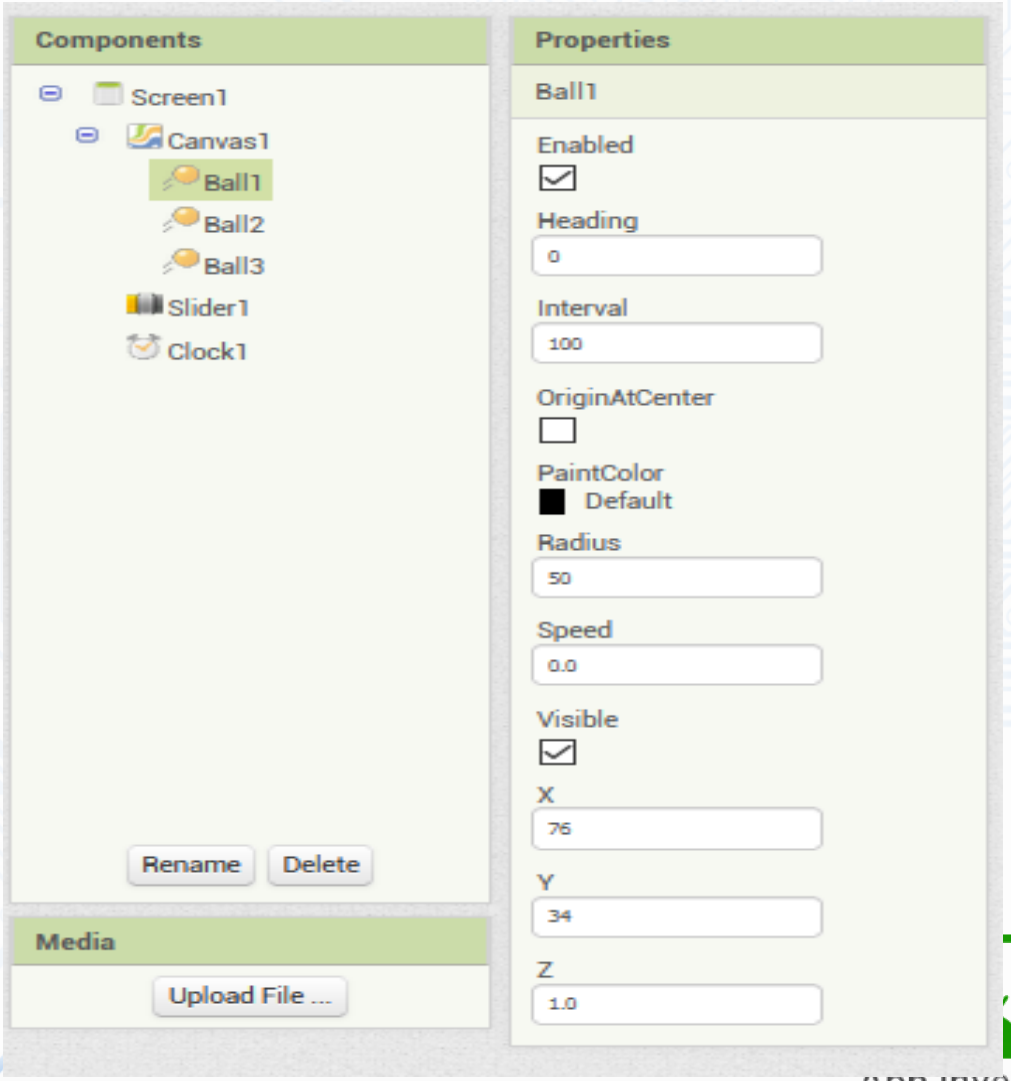
- Each time a occurs Interval Timer:

- one unit is counted: add = add + 1
  - If add is> 16 then add back to 0 (new series)
  - If add is <= 6 then Red
  - If add is> 6 And add is <= 9 then Yellow
  - If add is> 9 then Color Green

Practical Example 2:

Clock. Traffic light.





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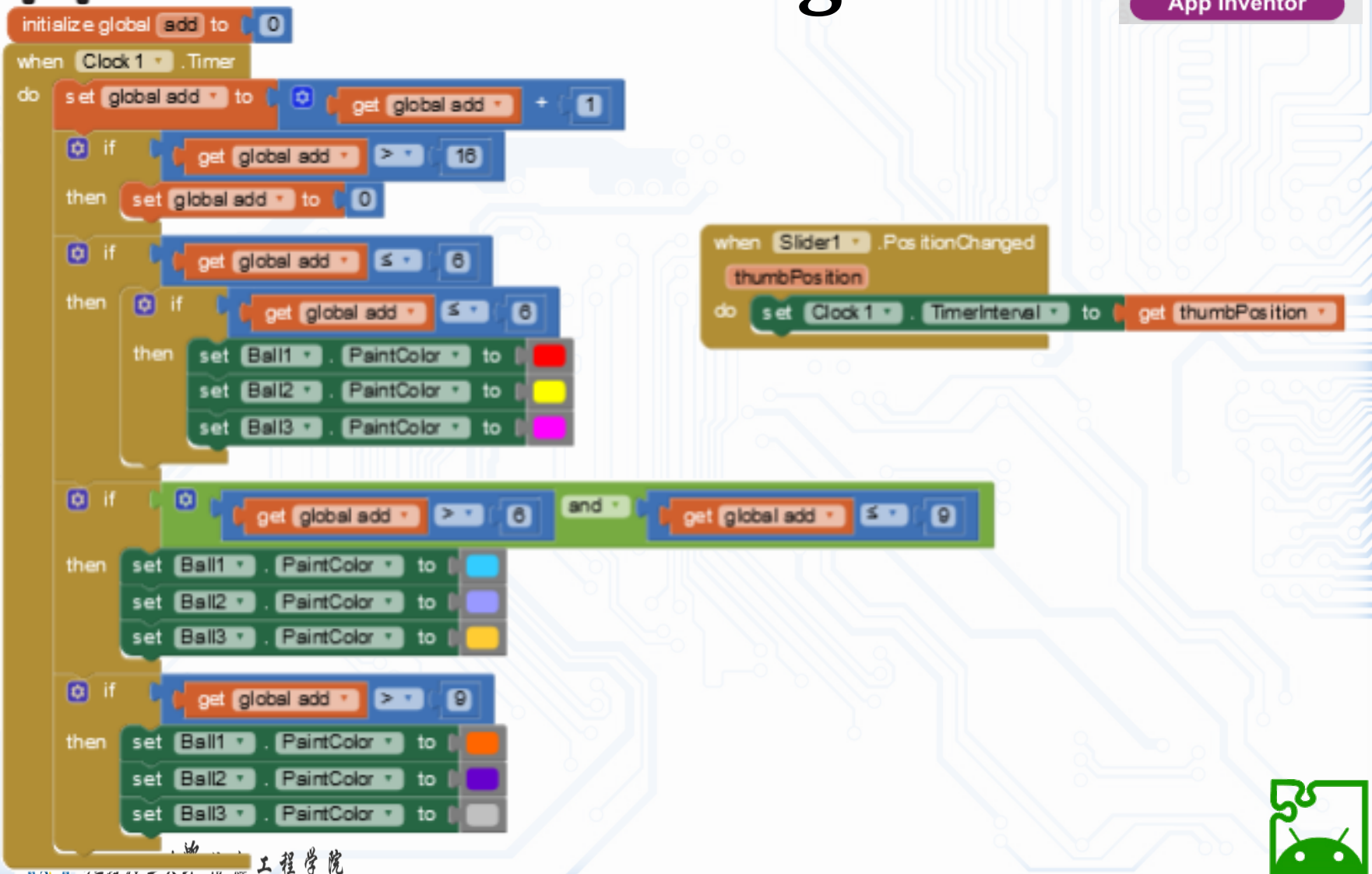
Clock. Traffic light.



App Inventor

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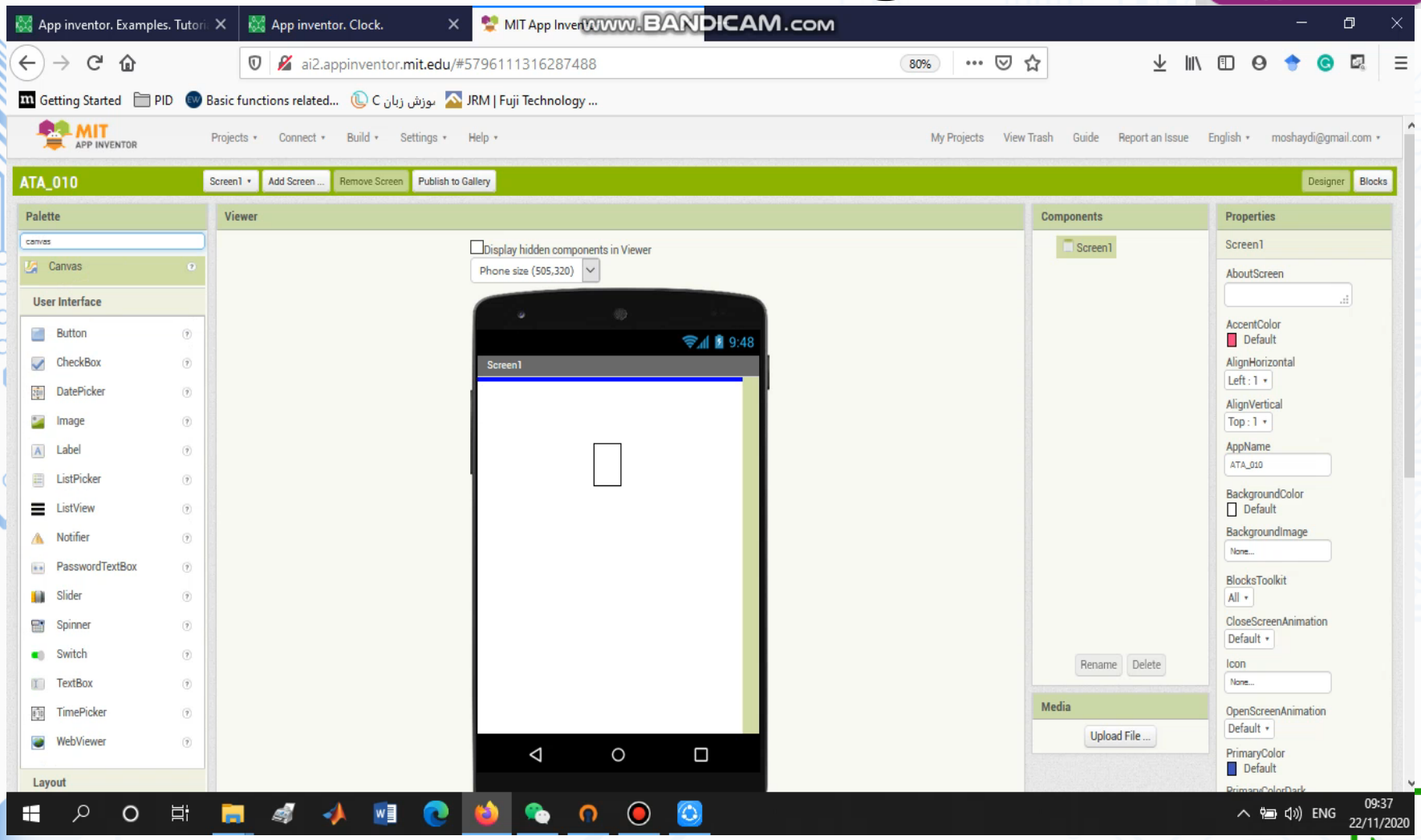
Clock. Traffic light.



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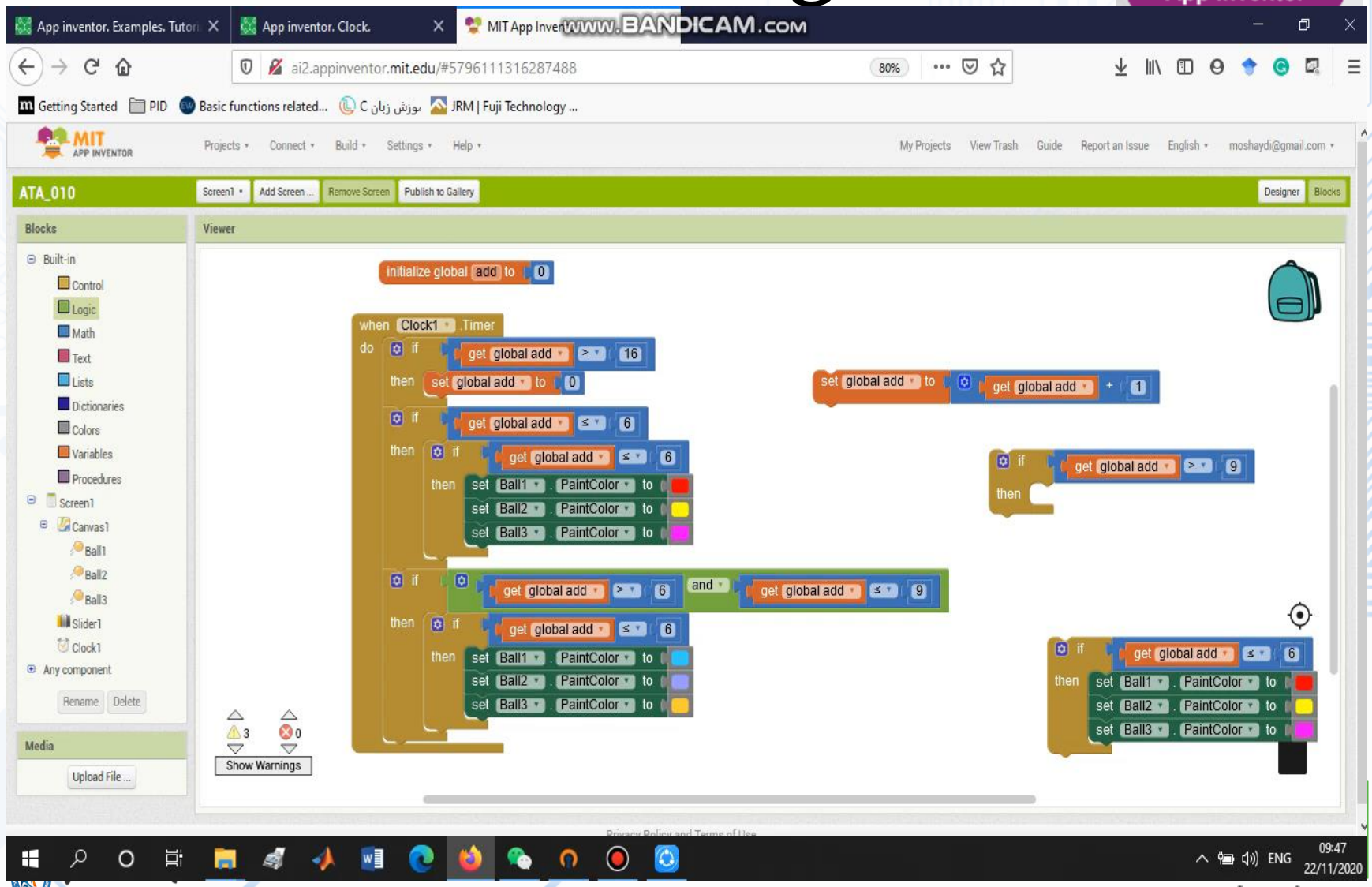
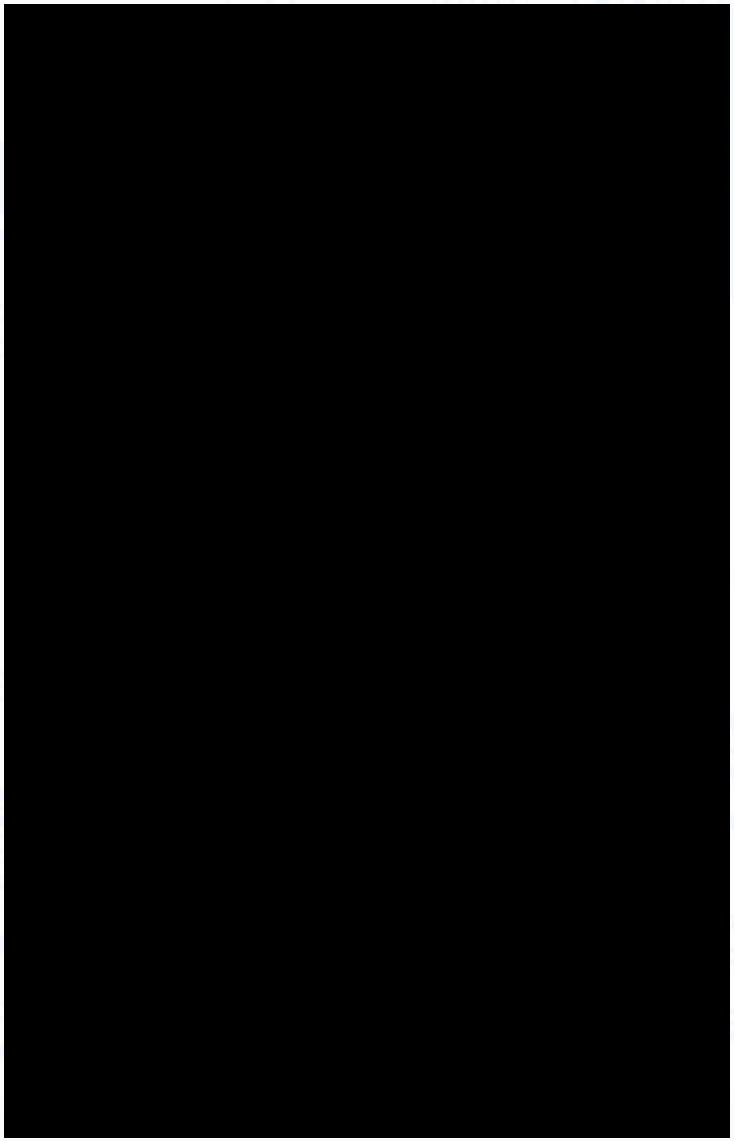


Practical Example 2:

Clock. Traffic light.

Demo On Clock Traffic Light



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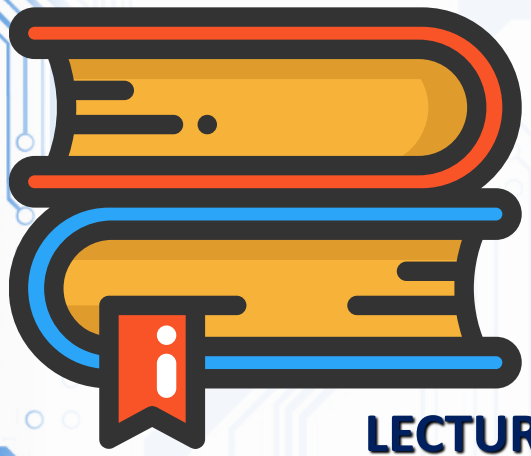

MOBILE APPLICATION DEVELOPMENT

LECTURE 013: APP Inventor_enviroment

Clock/ Time/Date Continue part

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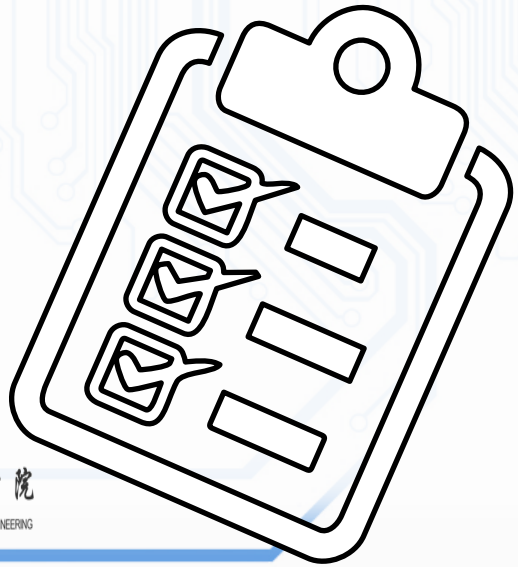
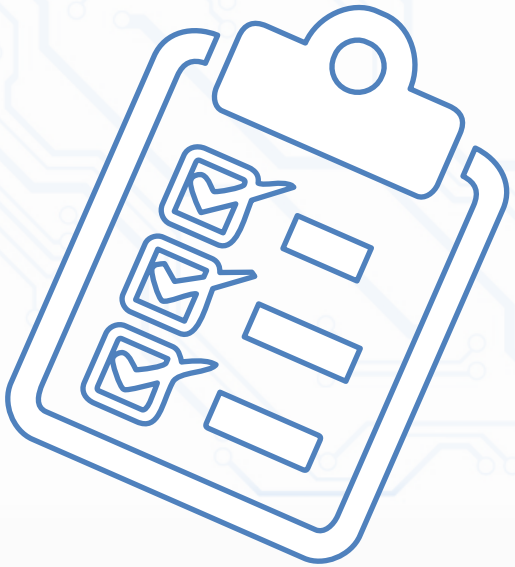
Clock/ Time/Date

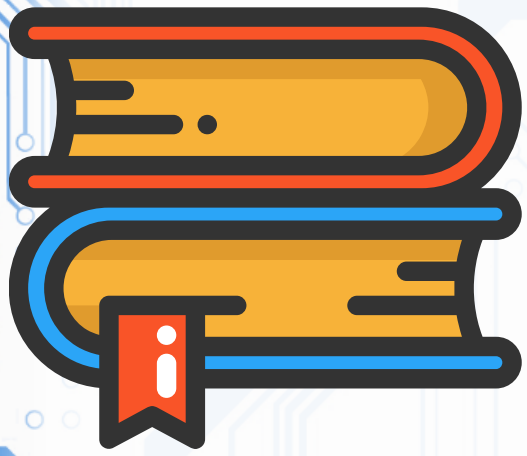
Practical Example 3& 4: Demo and run

Practical Example 5: Set /Change the time and date

Practical Example 6: The TimePicker and DatePicker User Interface Controls







Continue part

Time /Date

- Entering the date and time are common features of business applications.
- We could use a text edit box and let the user type in times (like 10:30) or dates (12 January 2015) but both methods require the user to enter the time or date in the proper format – and the app needs to test the entered data to ensure it was entered correctly.
- ***A better solution is to use App Inventors TimePicker and DatePicker controls. Both provide a graphical method of selecting input values.***

Date/ Time Picker

Date Picker:

A button that, when clicked on, launches a popup dialog to allow the user to select a date on the Gregorian Calendar.

TimePicker:

A button that, when clicked on, opens a dialog to allow the user to select a time.

Note: Date and time are manipulated using methods in the Clock component.

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Practical Example 3& 4:

Demo and run

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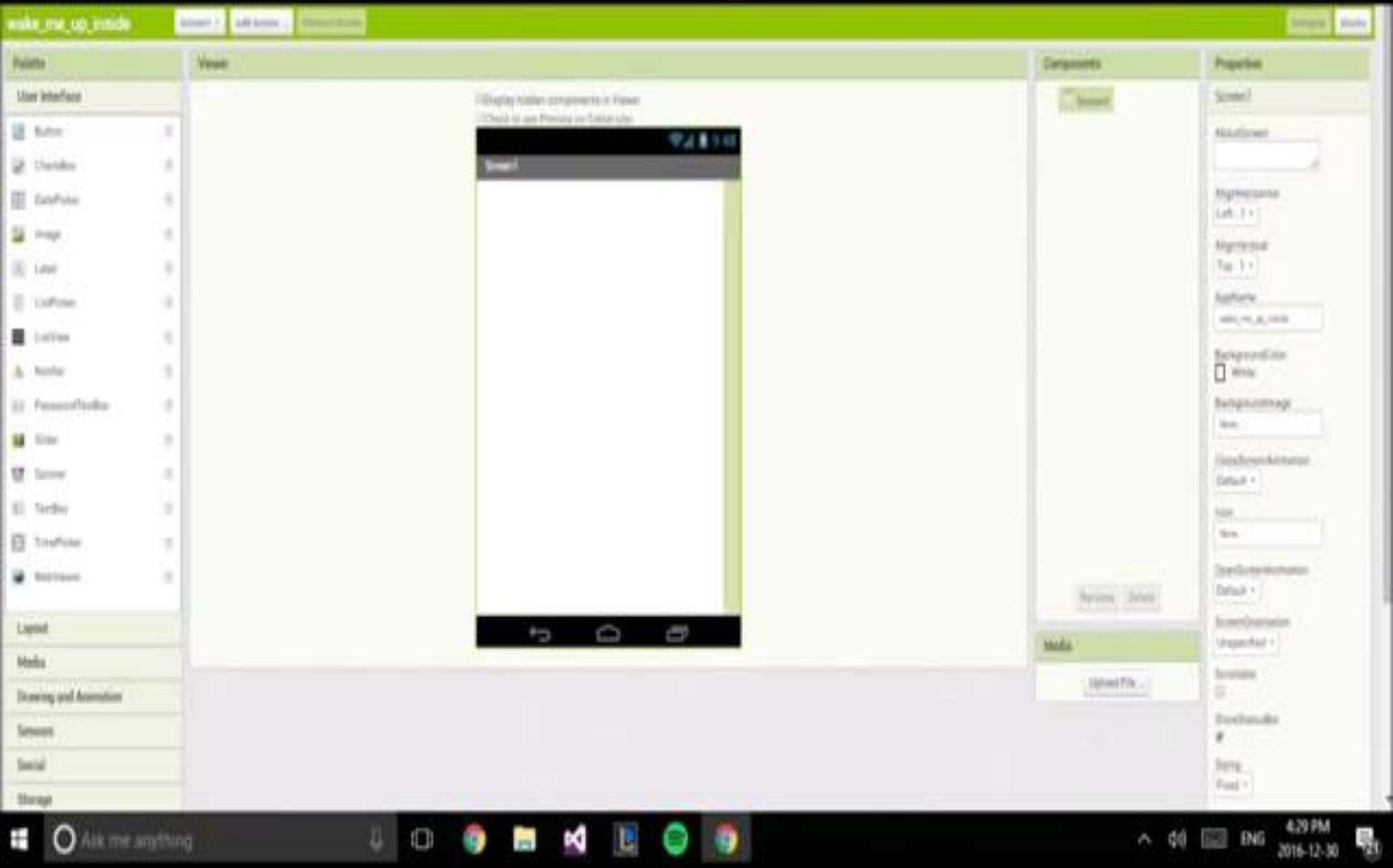
Practical Example 3:
get time clock with hours and minute

- How to use the timer in app

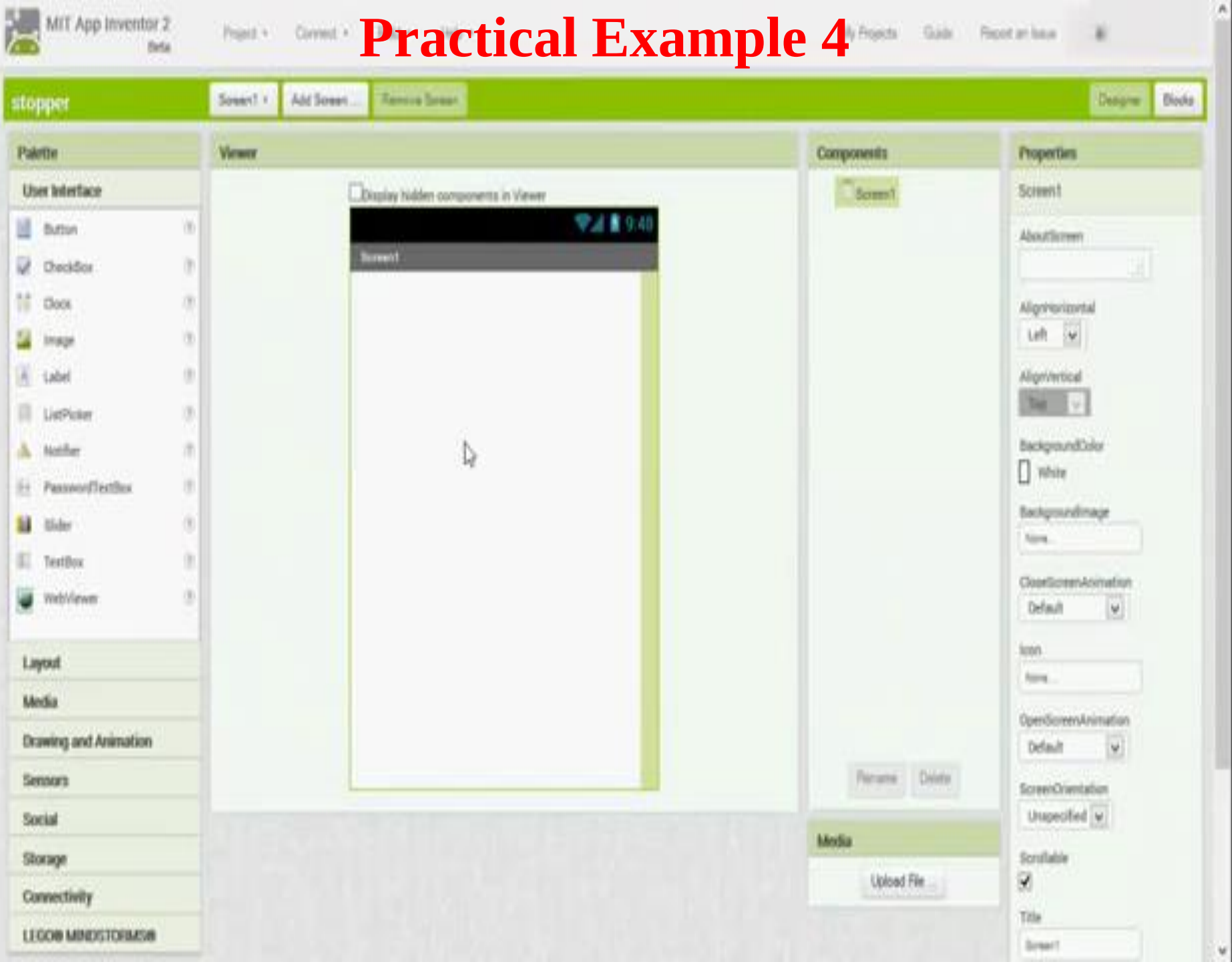
Practical Example 3



Practical Example 4 :Stopwatch

- Making the Timer APP

Practical Example 4



MOBILE APPLICATION DEVELOPMENT

Practical Example 5:

Set /Change the time and date

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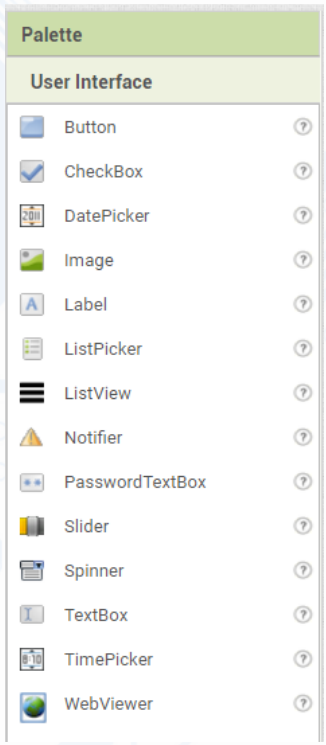
Practical Example 5:

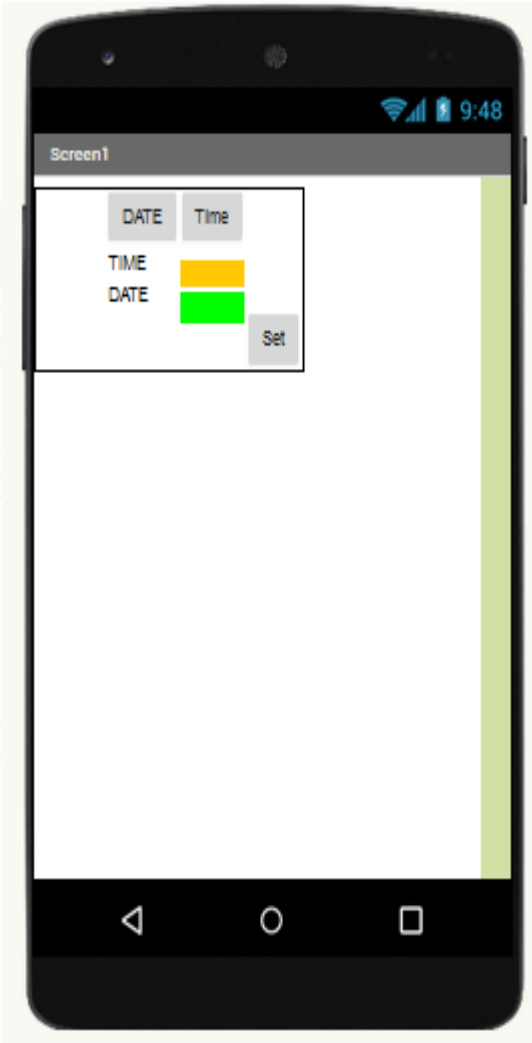
Set / Change the time and date

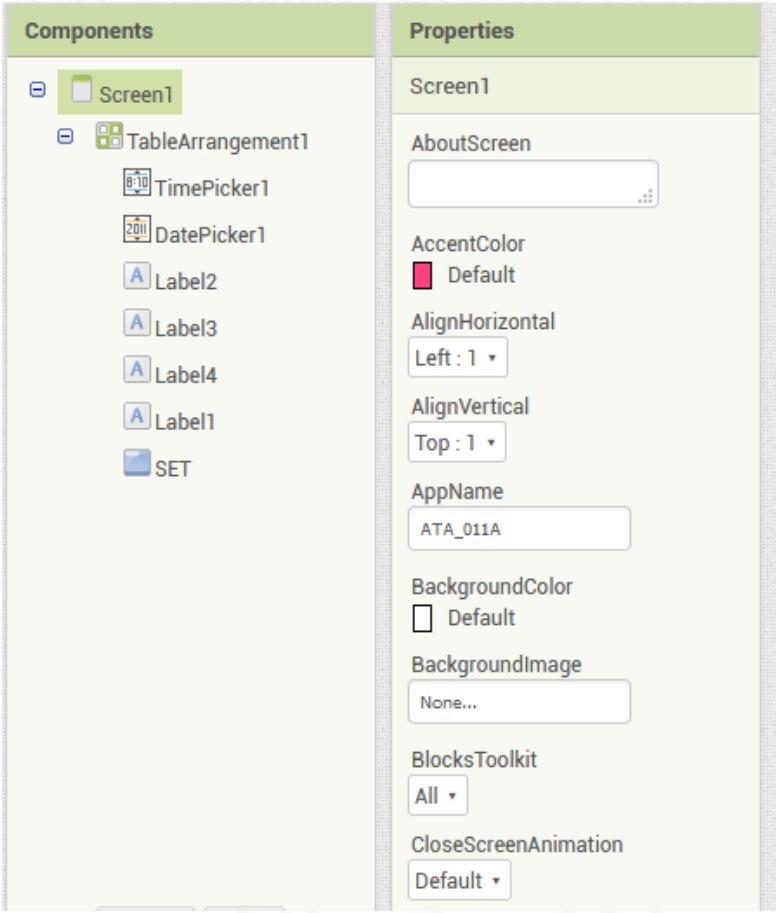
- Used to **Set / Change the time and date.**
- In reality as its name suggests is a Selector date/time to choose a date/time, but it serves to change the time mobile for example.

Practical Example 5:

Set / Change the time and date





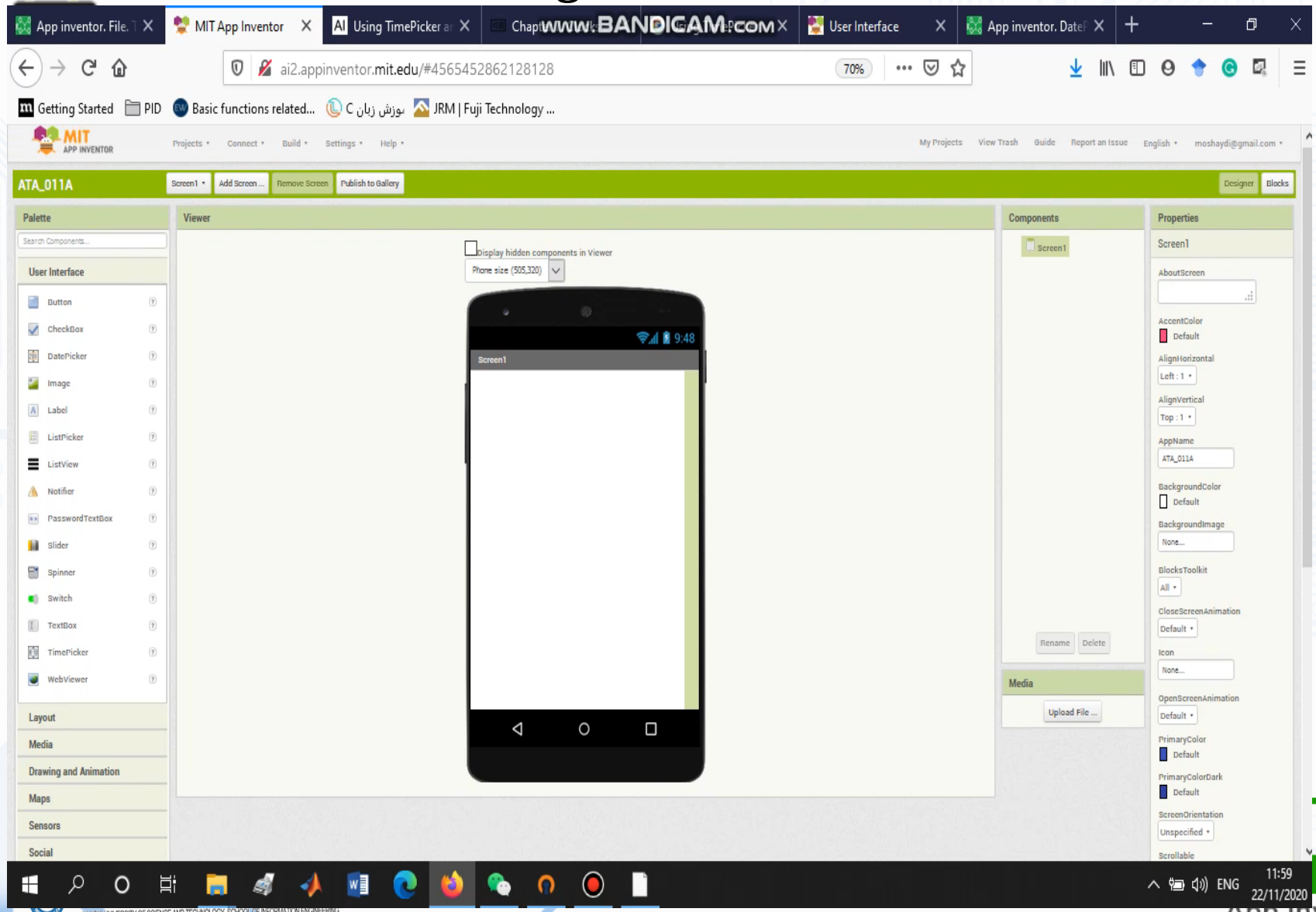


Practical Example 5:
Set / Change the time and date

- When you press Button **TimePicker1 or DatePicker1**, you get a calendar where you can change the time and date.
  - In our case then show the time and date on a label.
- -we used a simple procedure for the same Label the time and date shown. If you press repeatedly **TimePicker1**, it will show several hours.

Practical Example 5:

Set / Change the time and date



Practical Example 5:

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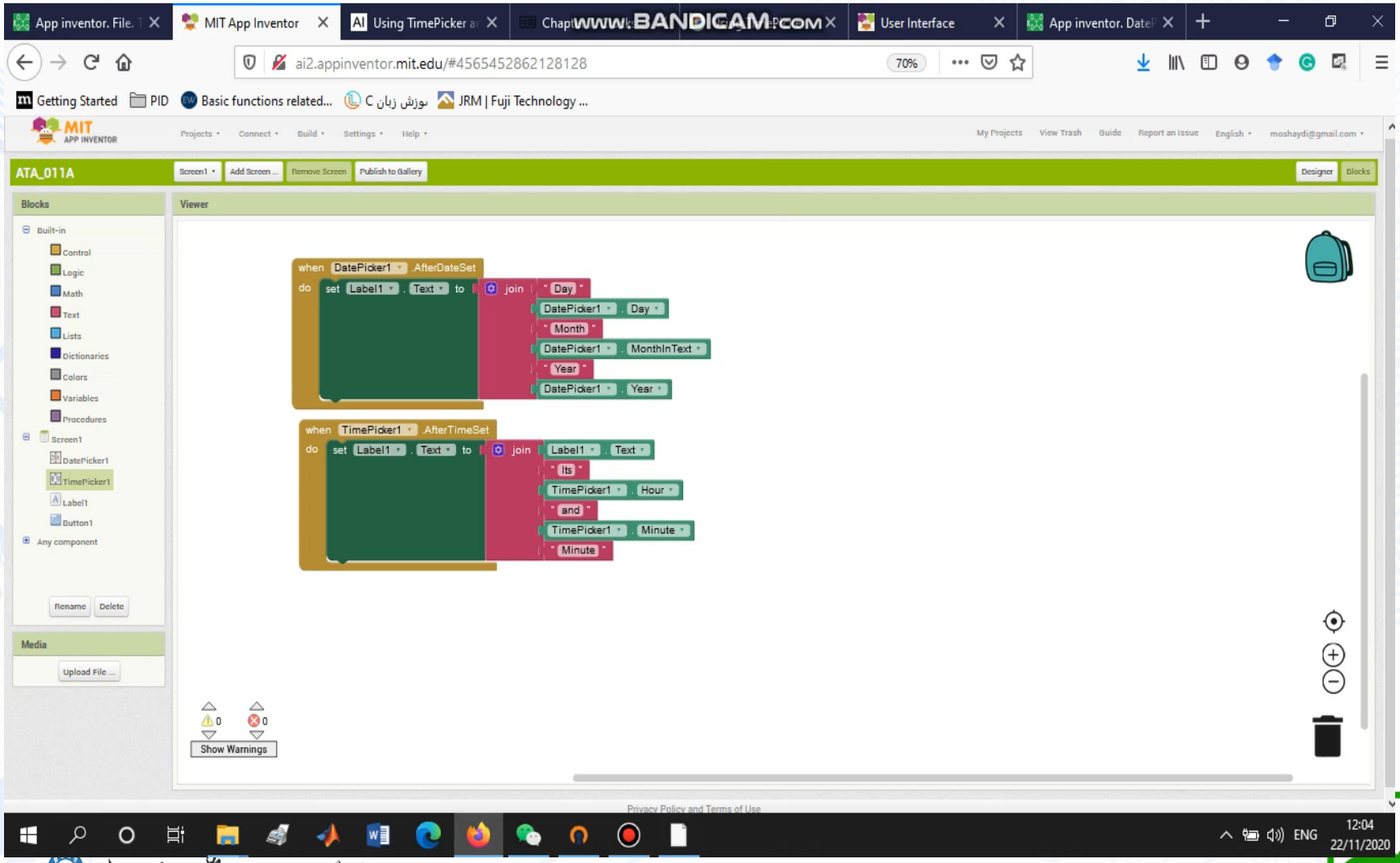

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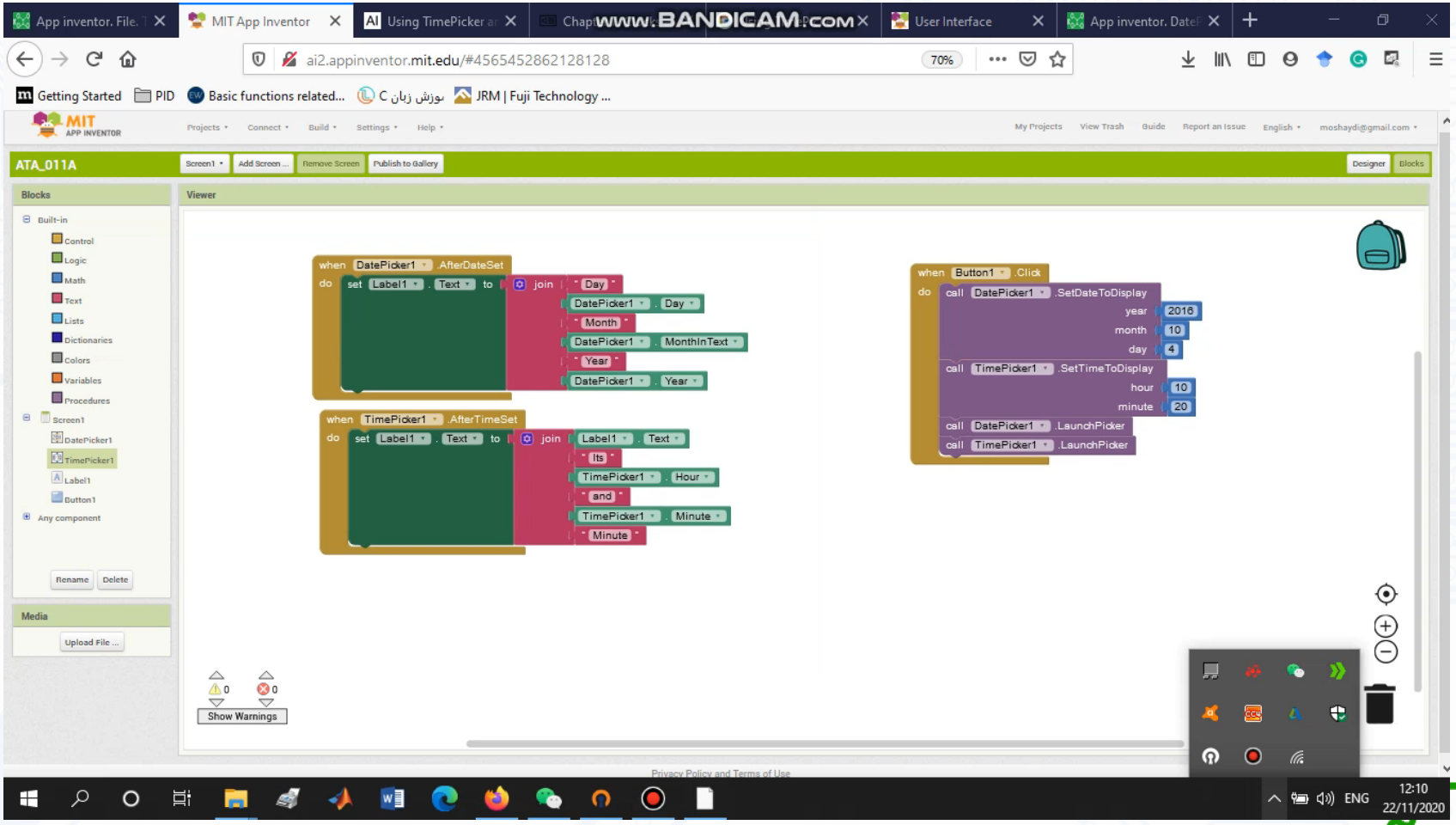

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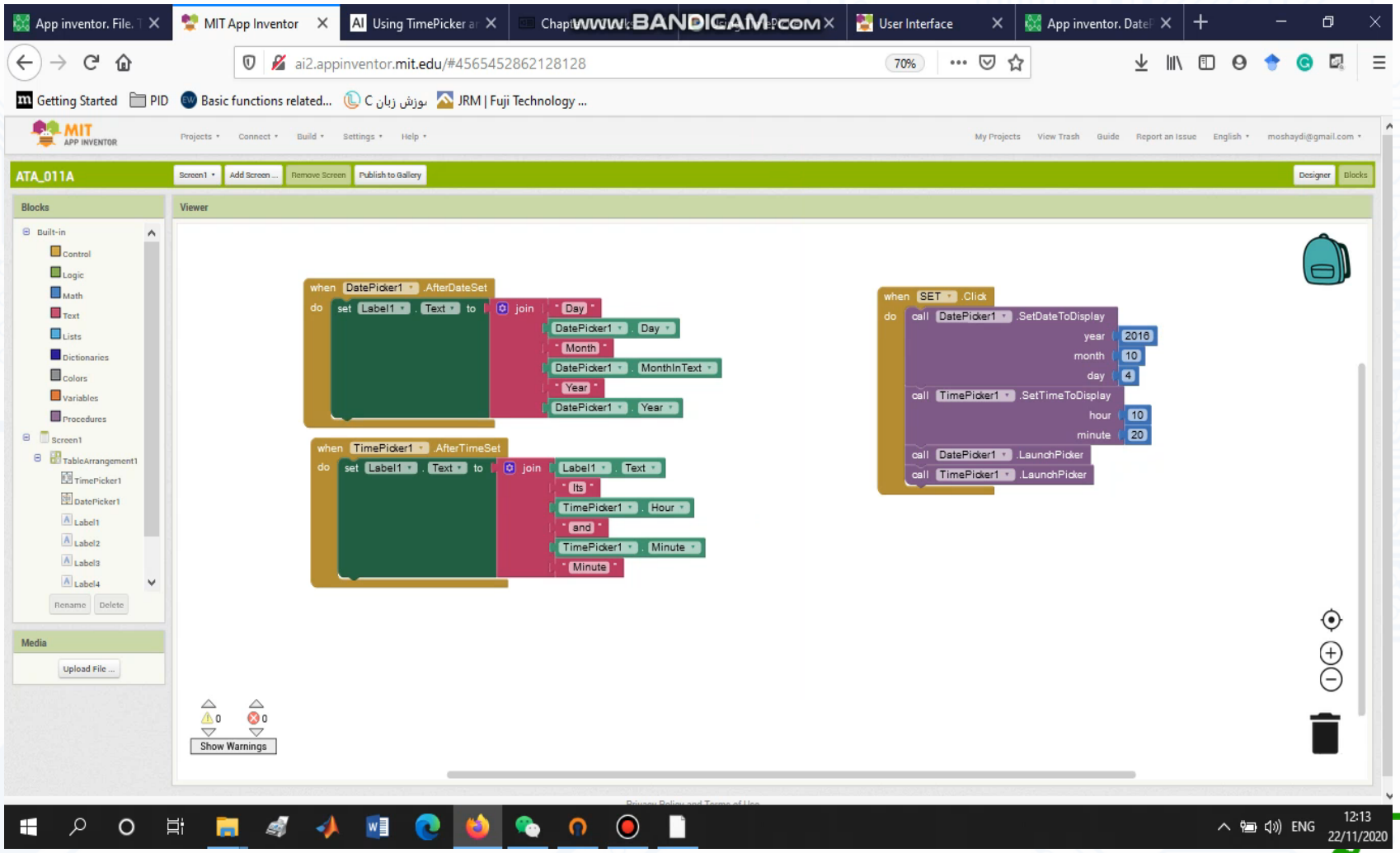
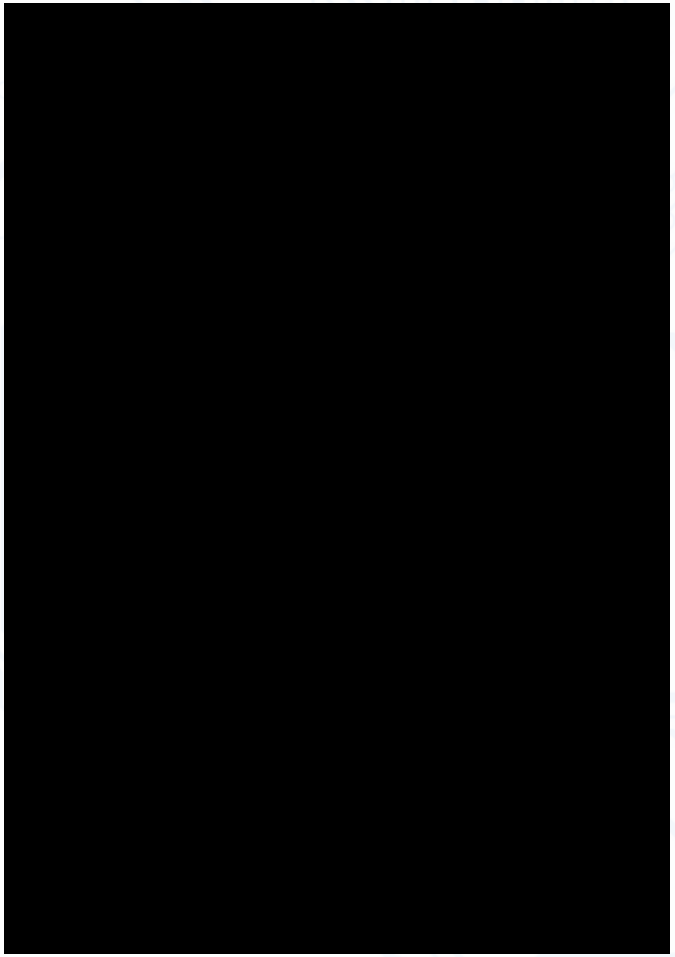
Set / Change the time and date



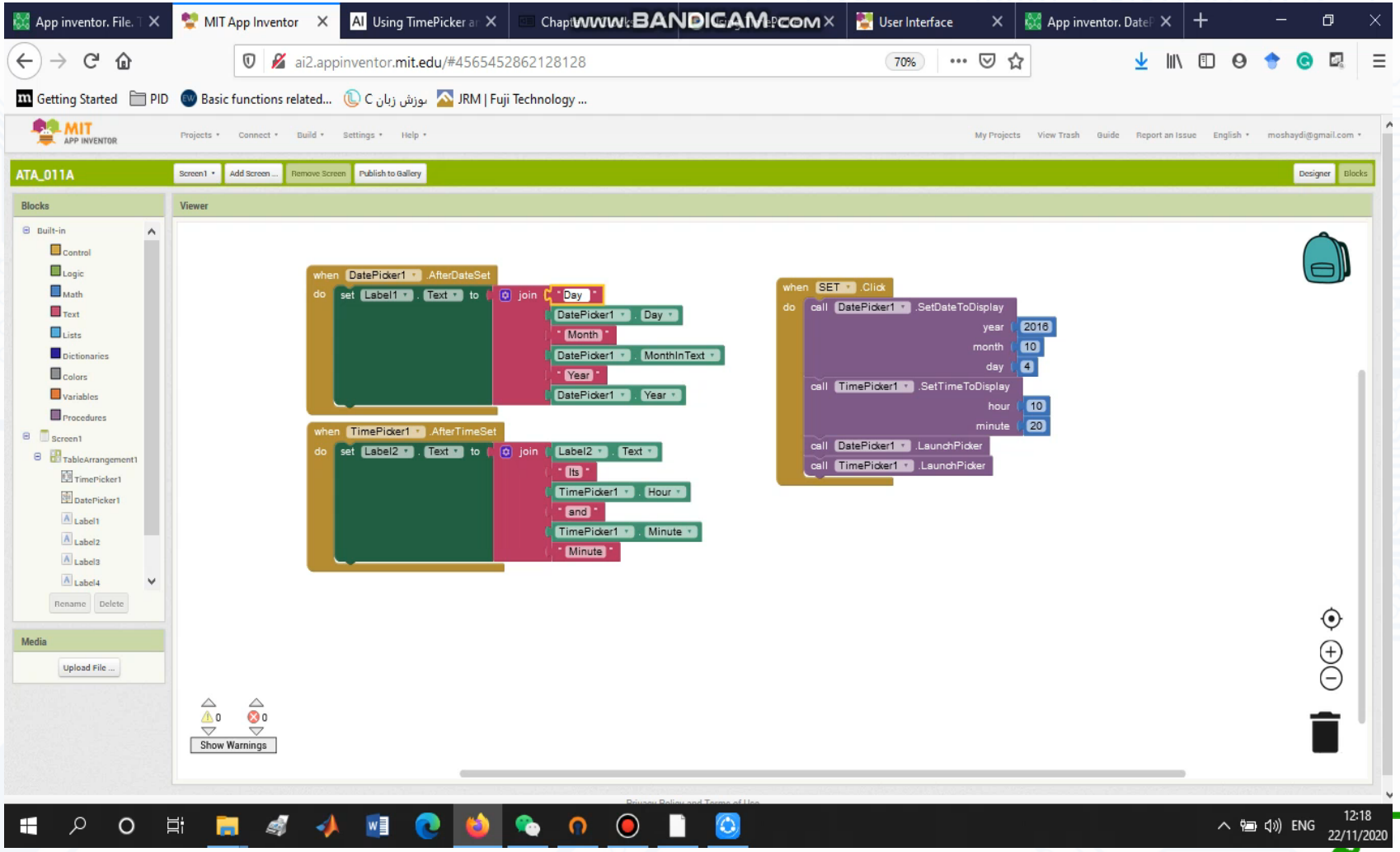
Practical Example 5:
Set / Change the time and date

The error occur after making the apk



Practical Example 5:

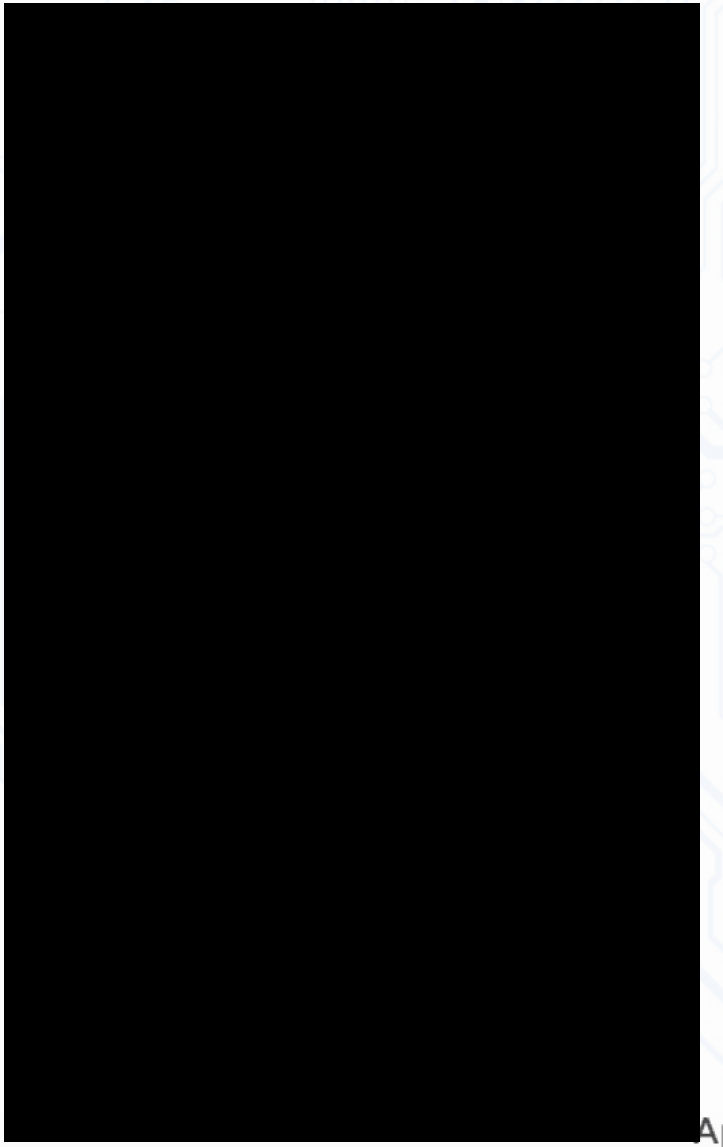
Set / Change the time and date



Practical Example 5:

Set / Change the time and date

Demo on example



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Practical Example 6:

The Time Picker and Date Picker User Interface Controls

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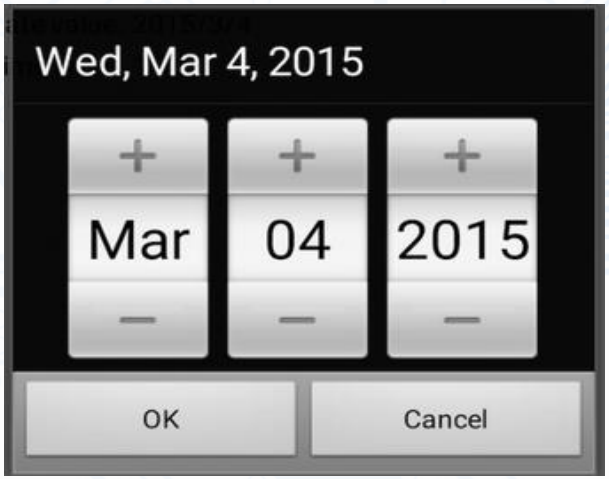
App Inventor

Practical Example 6:
The TimePicker and DatePicker User Interface Controls

- In this example we want The time is set by pressing the + or – buttons above and below the hours and minutes.
- The AM/PM indicator is a toggle – when it shows PM, a press changes it to AM, and when it shows AM, a press changes it to PM.
- With this input system, the user can never entered an invalid time (the user could, of course, enter the wrong time, but that is a different problem!)



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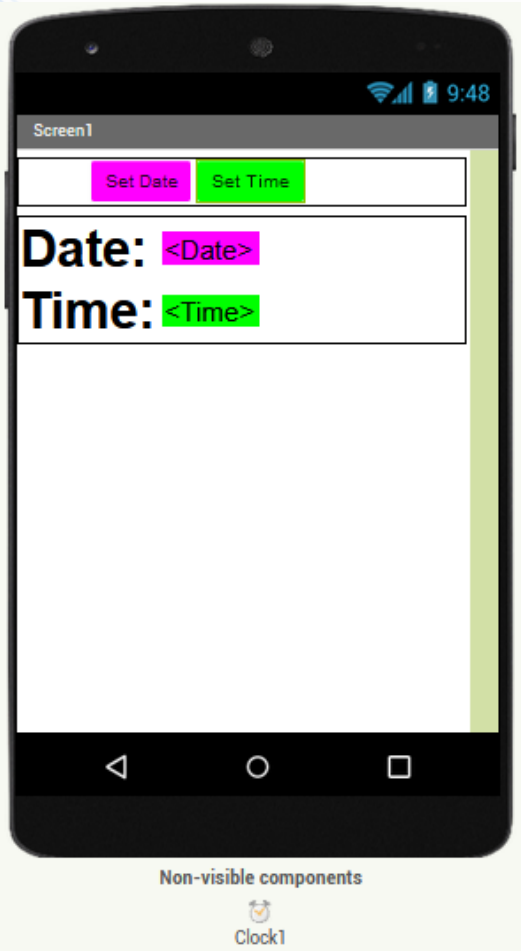
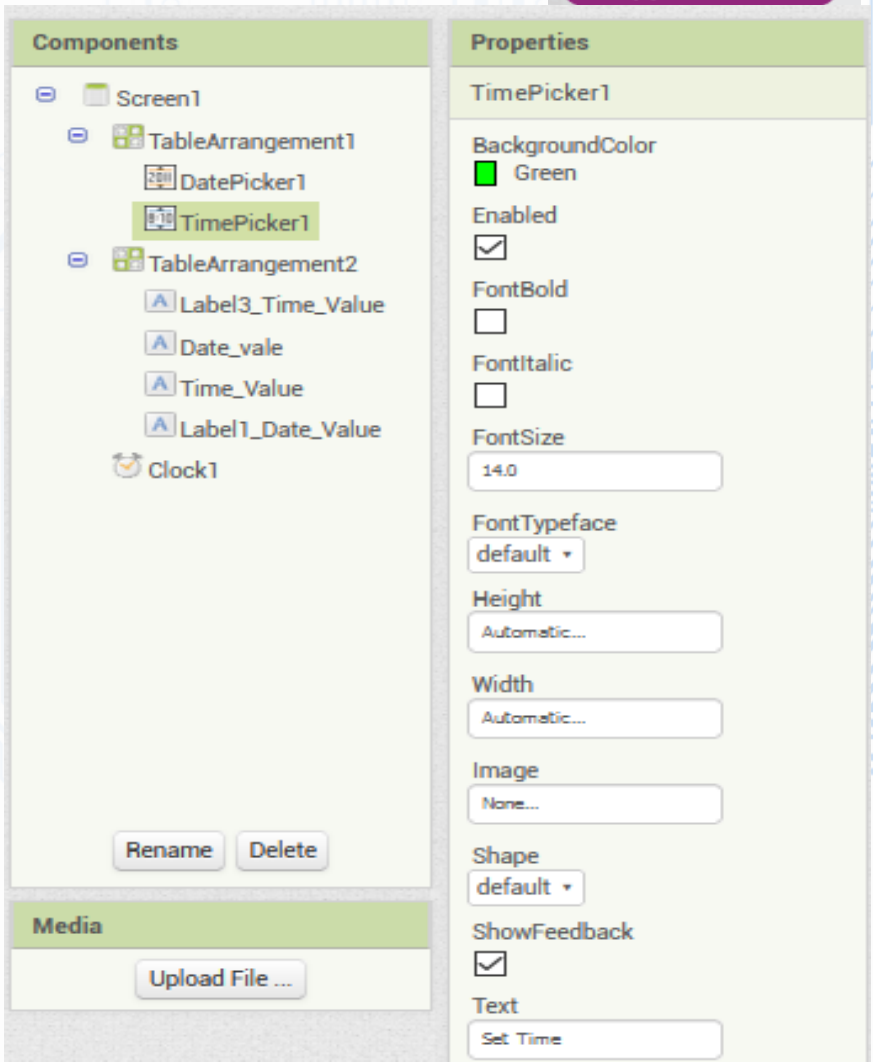
The TimePicker and DatePicker User Interface Controls





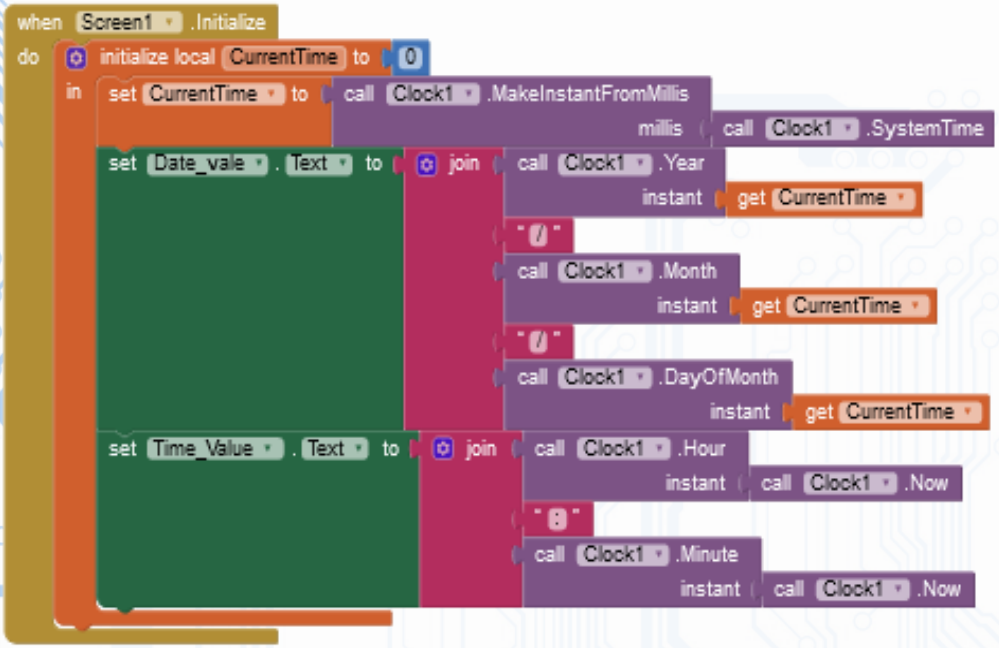
Practical Example 6:

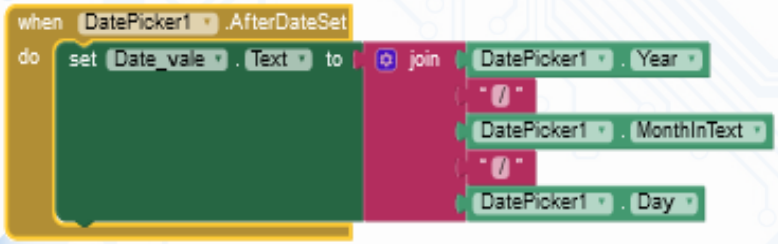
The TimePicker and DatePicker User Interface Controls

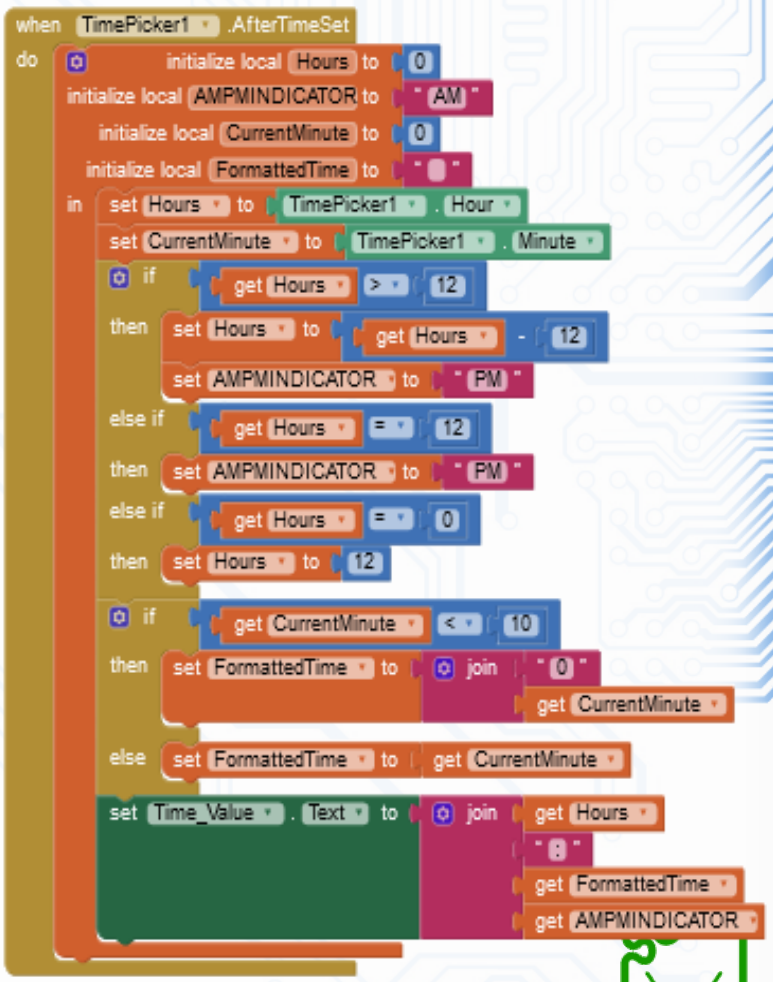
- To obtain the current date and time, our app calls the *Clock1* control. Times are stored in an internal format that is based on milliseconds, since the year 1970. This peculiar format is produced by the Clock control but must be converted into year, month, day, and hour and minute values.
- Step 1 is to obtain the *CurrentTime*. This is done by referencing the *Clock1.SystemTime* property (which is in the millisecond format) and then passing that to the *Clock1.MakeInstantFromMills* method and saving the result in the variable *CurrentTime*.
- Step 2 converts the CurrentTime value by using additional Clock1 methods. for the Year, Month and DayofMonth.
- Step 3 obtains the hours and minutes but does so using an alternative method of calling Clock1.Now to obtain the current time. (We could have used this in place of the MakeInstantFromMill and SystemTime method shown above.)

Practical Example 6:

The TimePicker and DatePicker User Interface Controls







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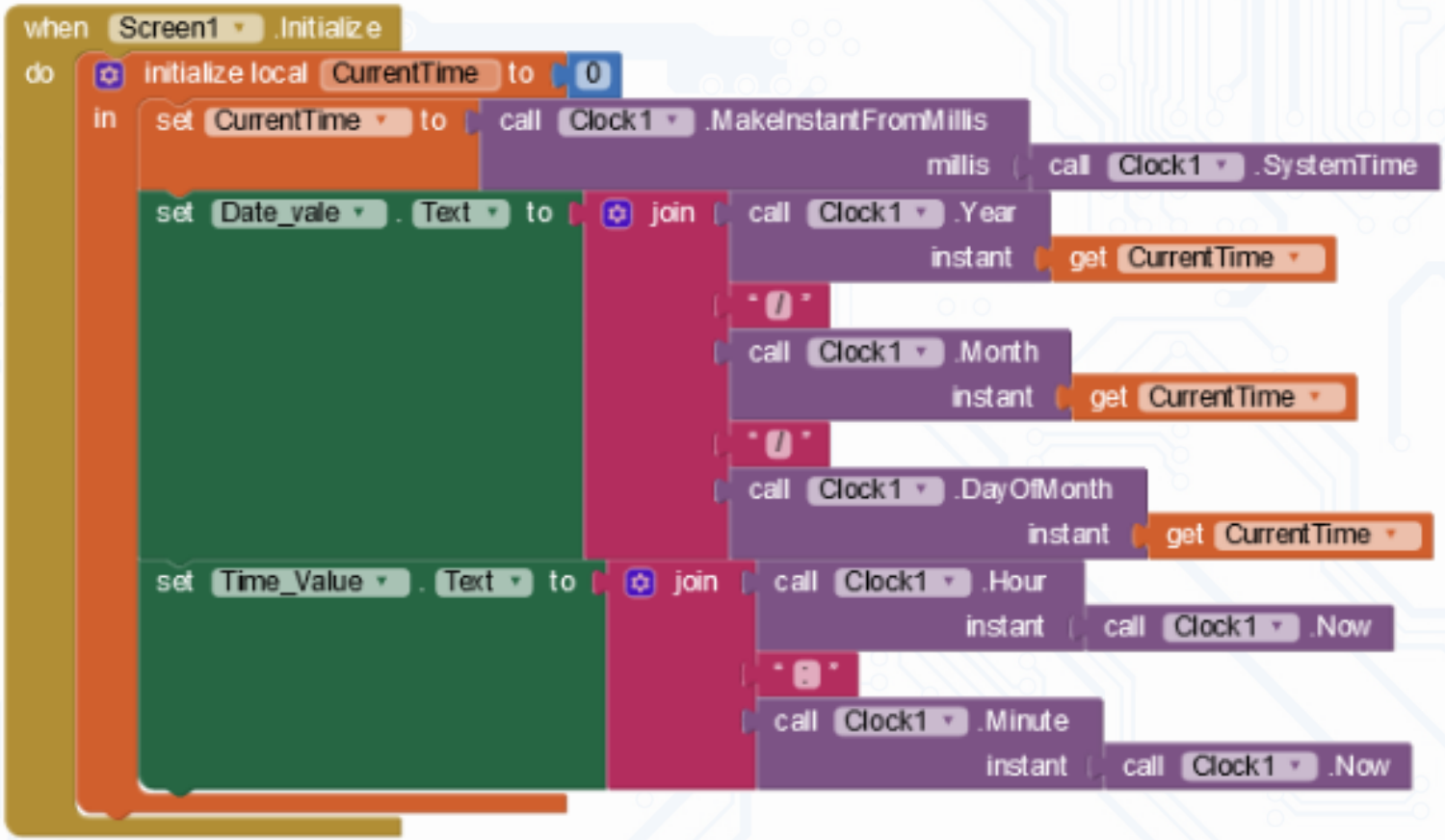

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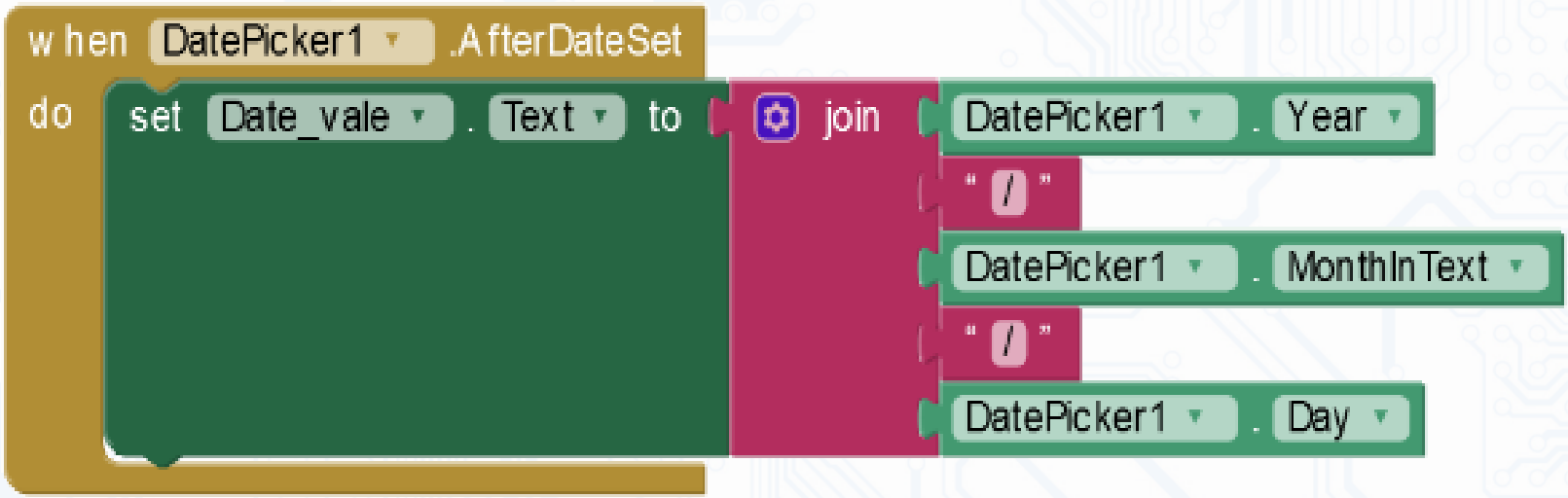

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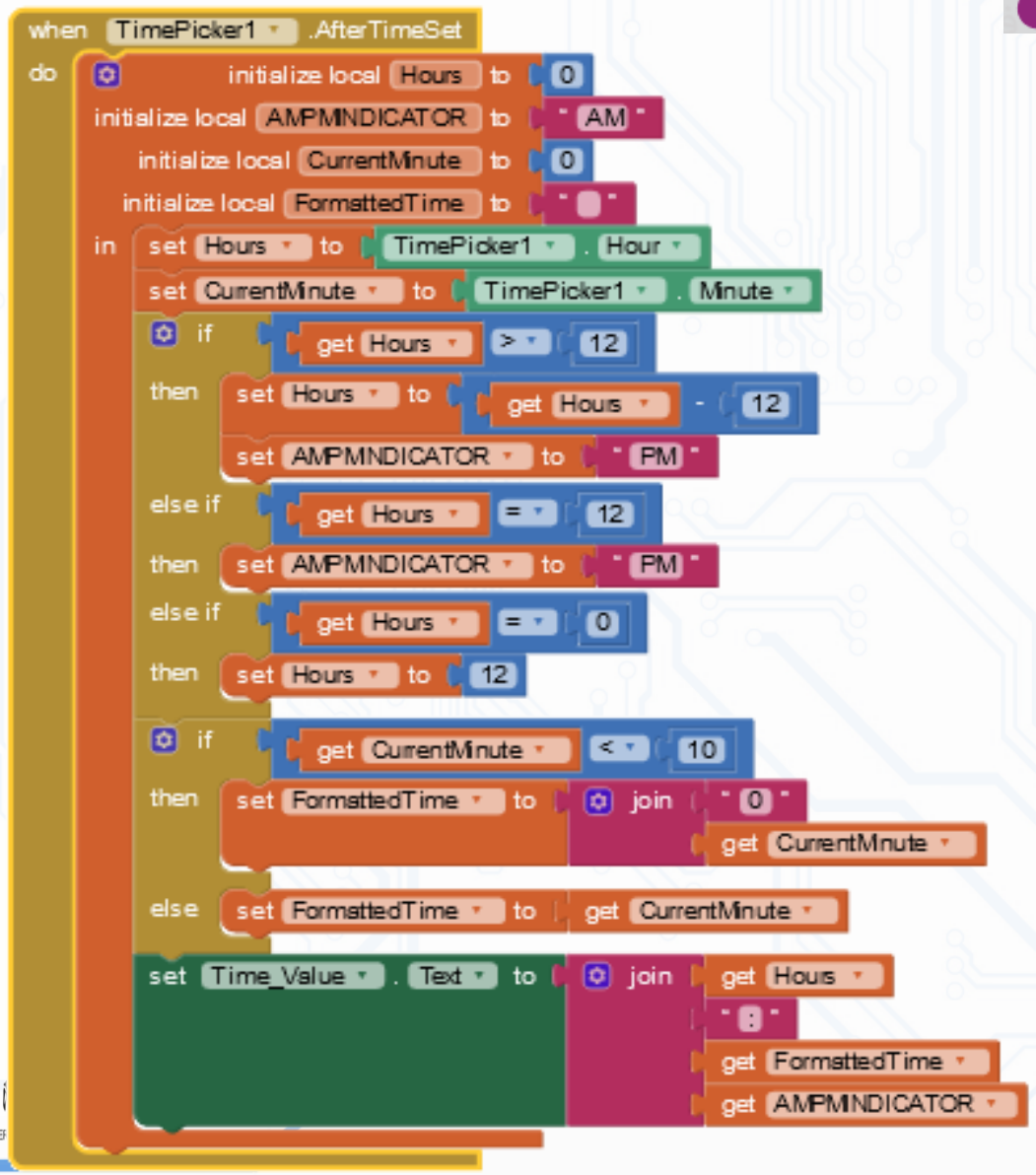

App Inventor

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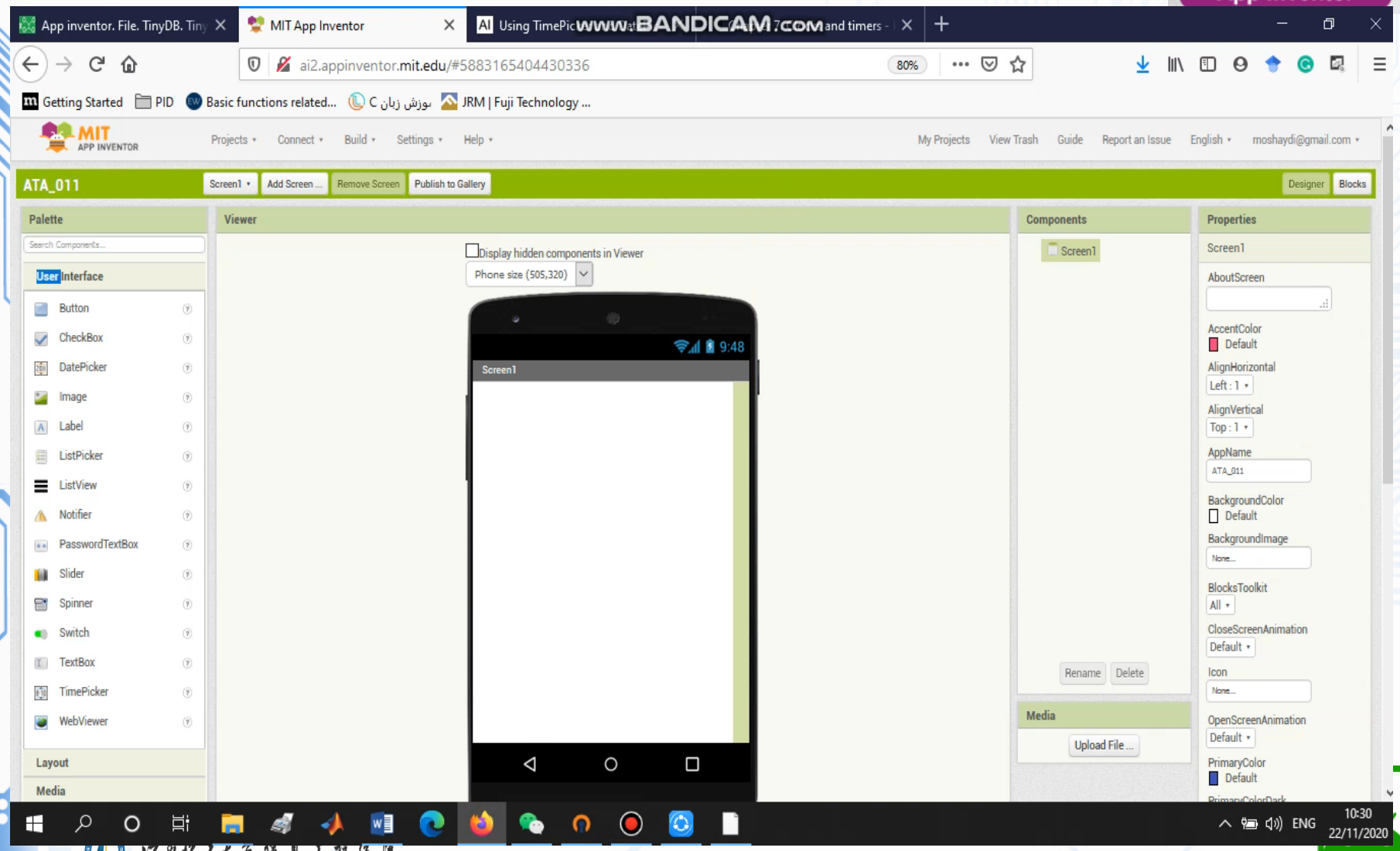
Practical Example 6:

The TimePicker and DatePicker User Interface Controls



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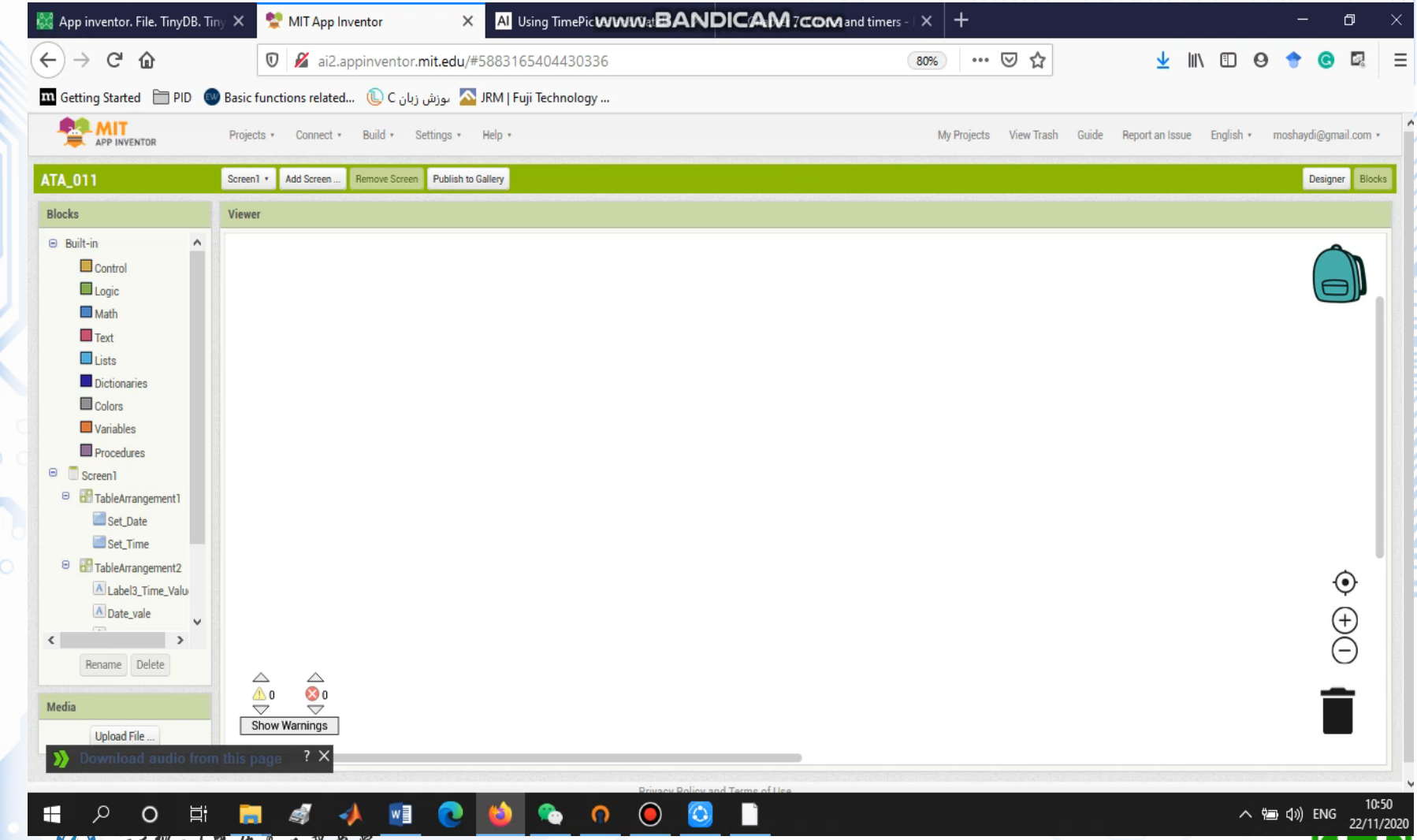

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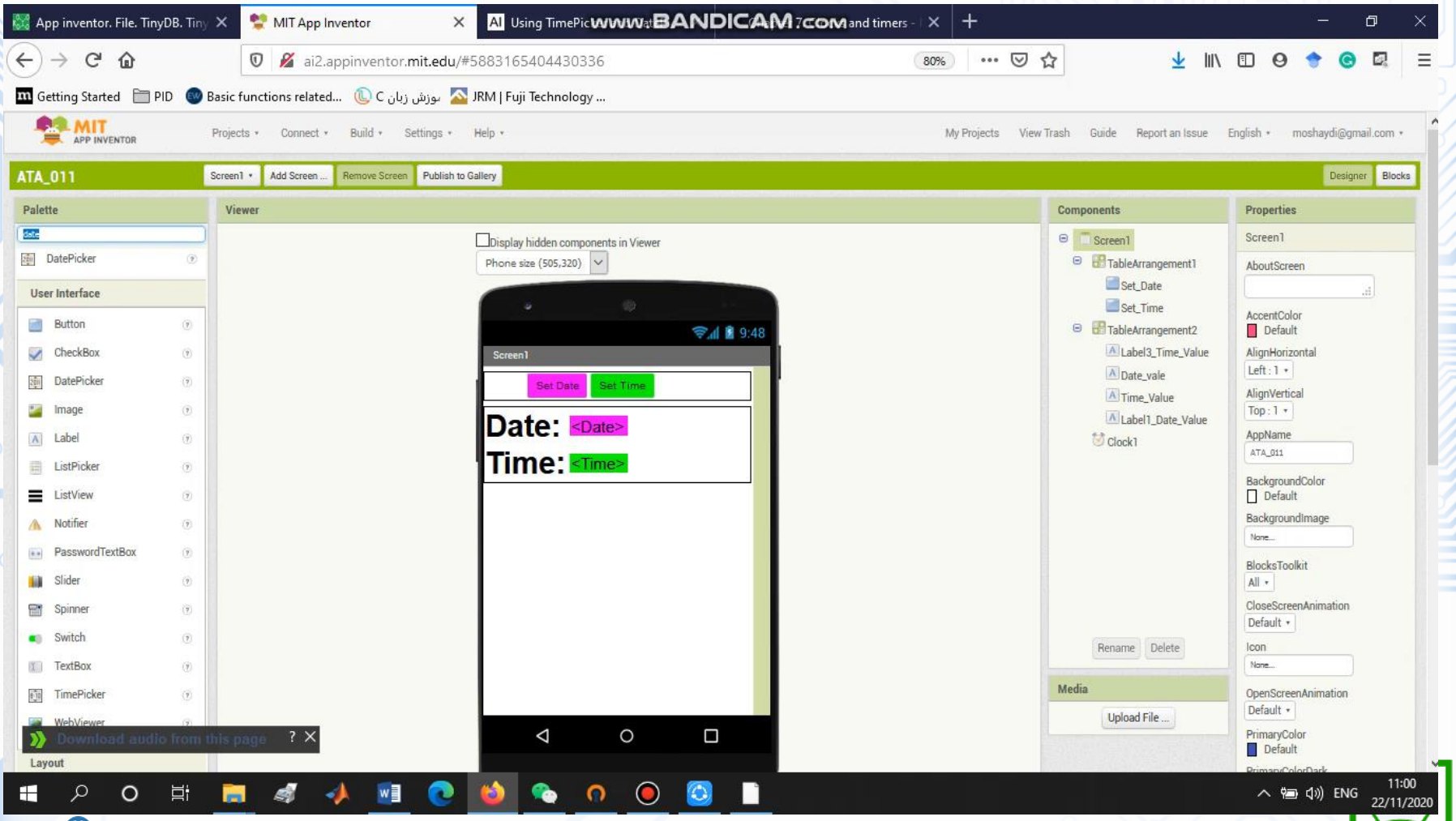

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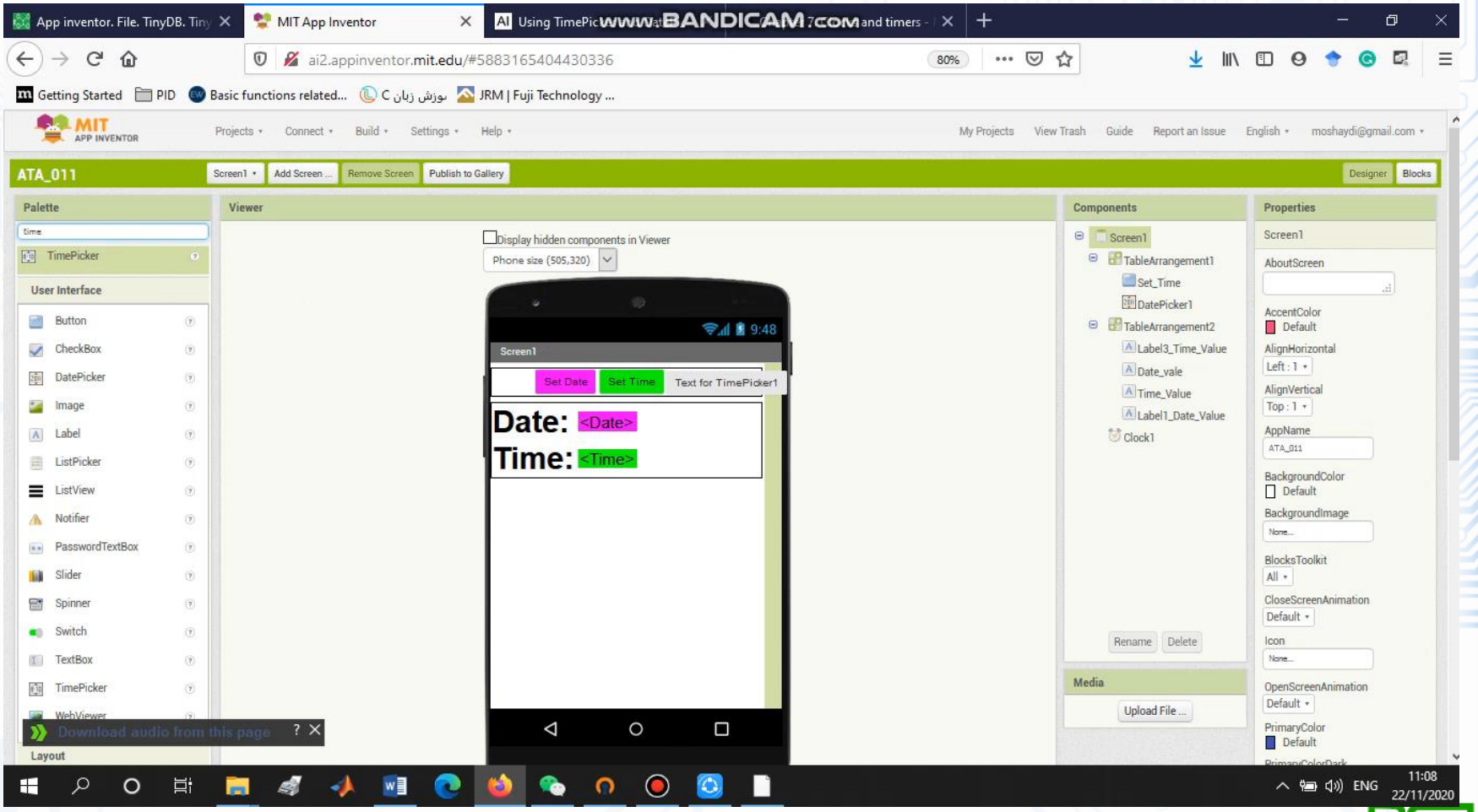

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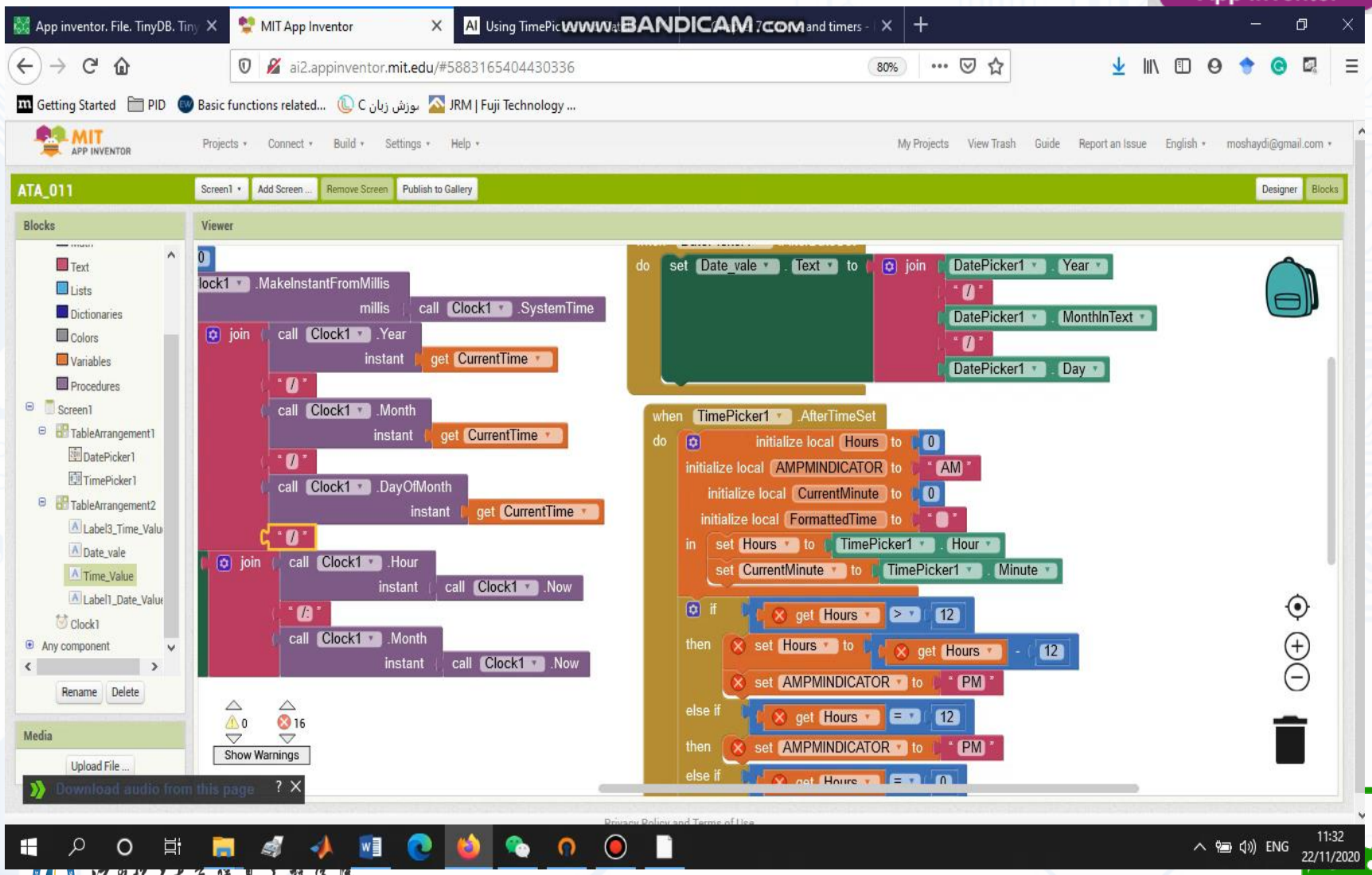

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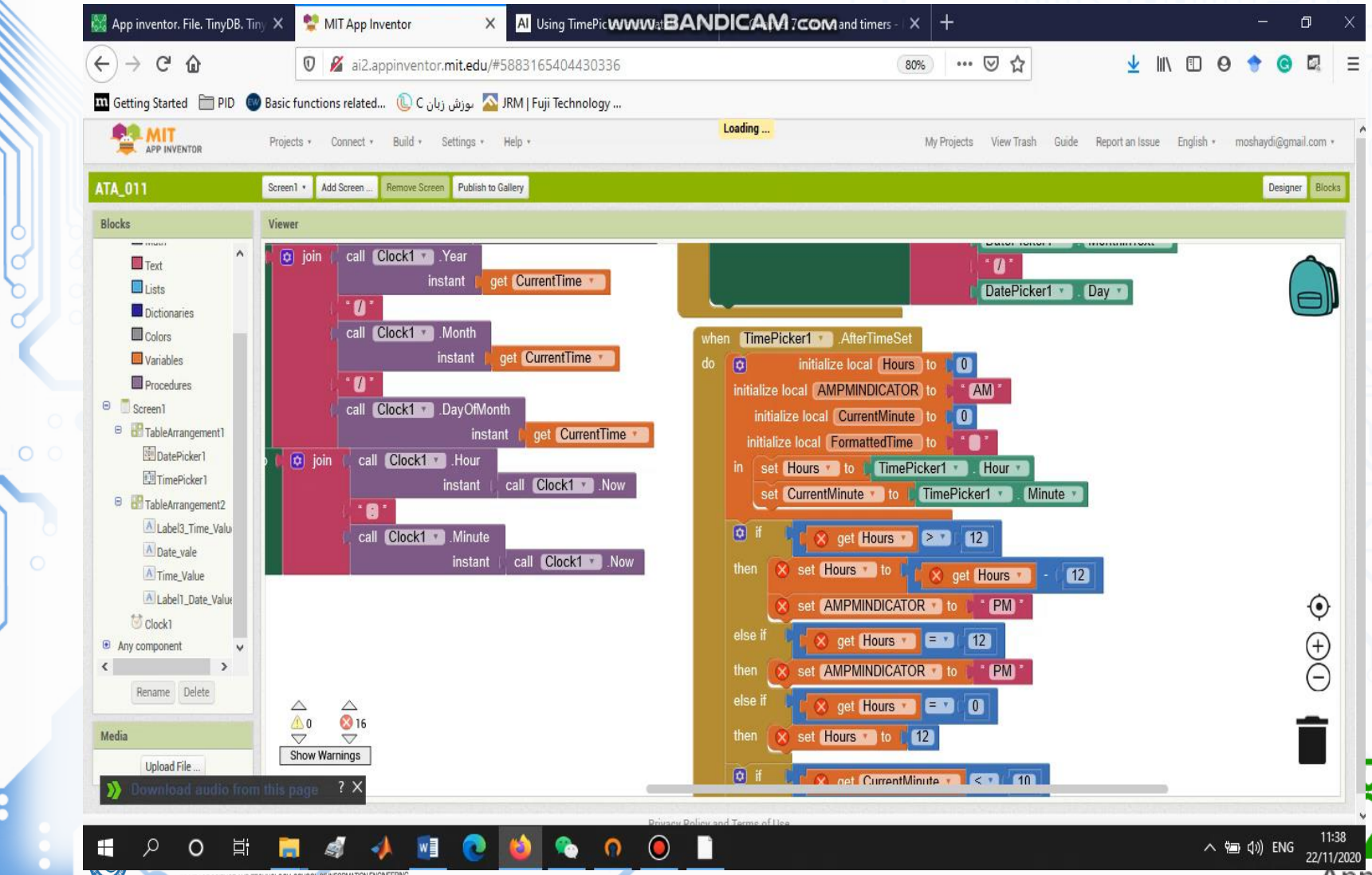

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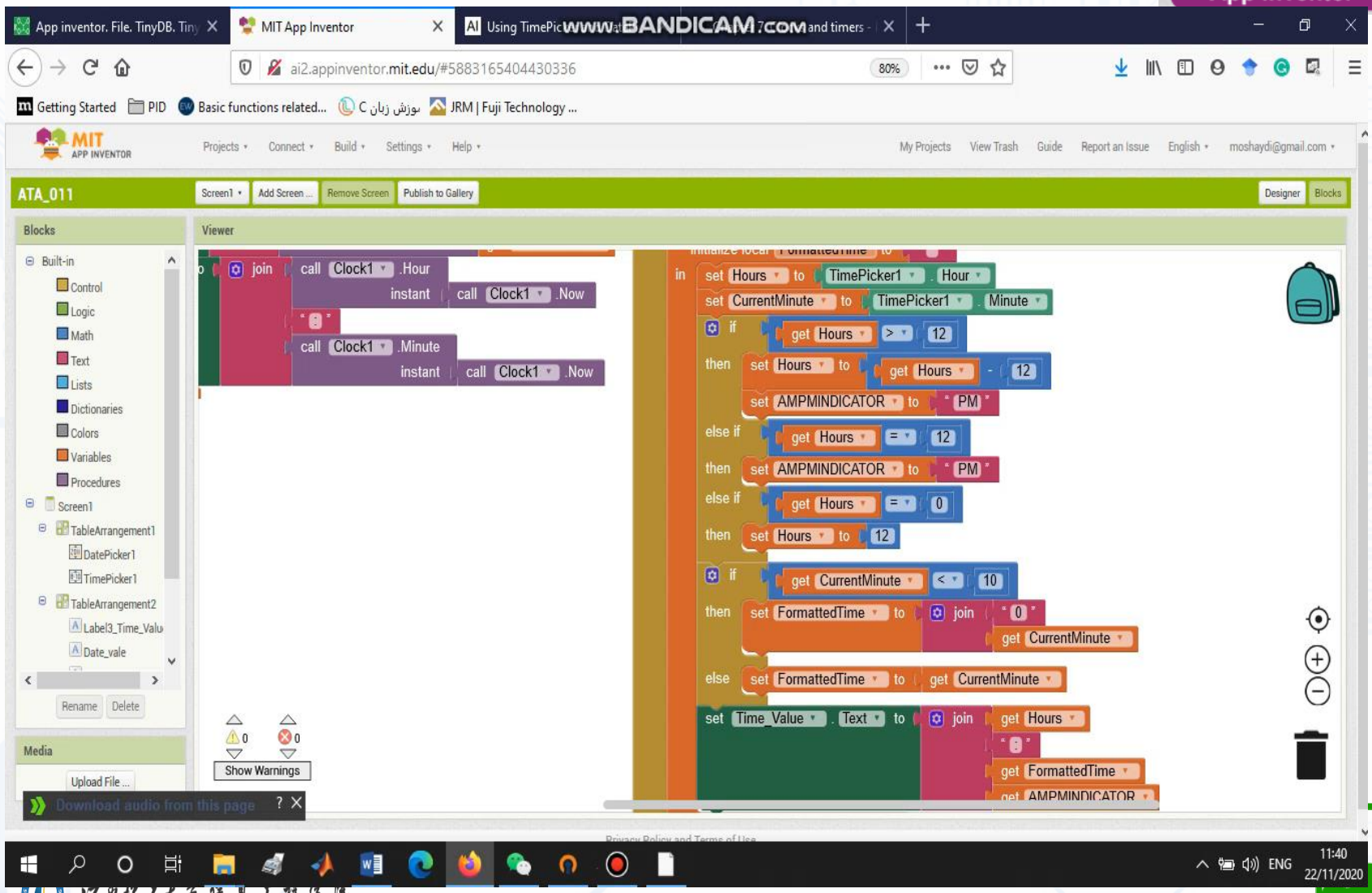

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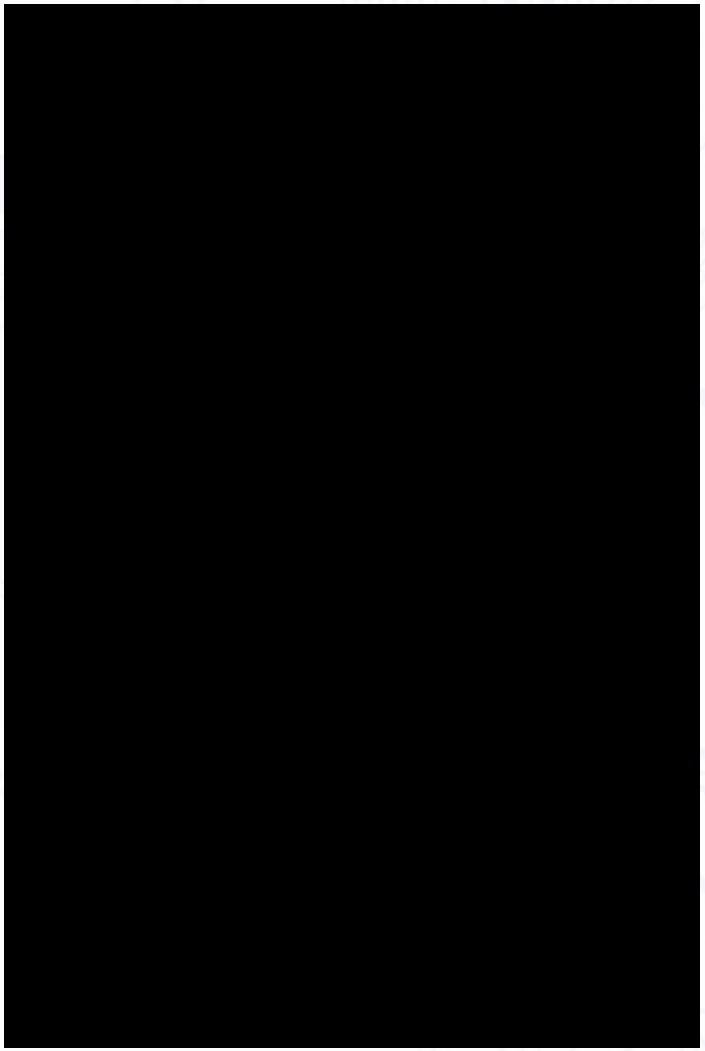

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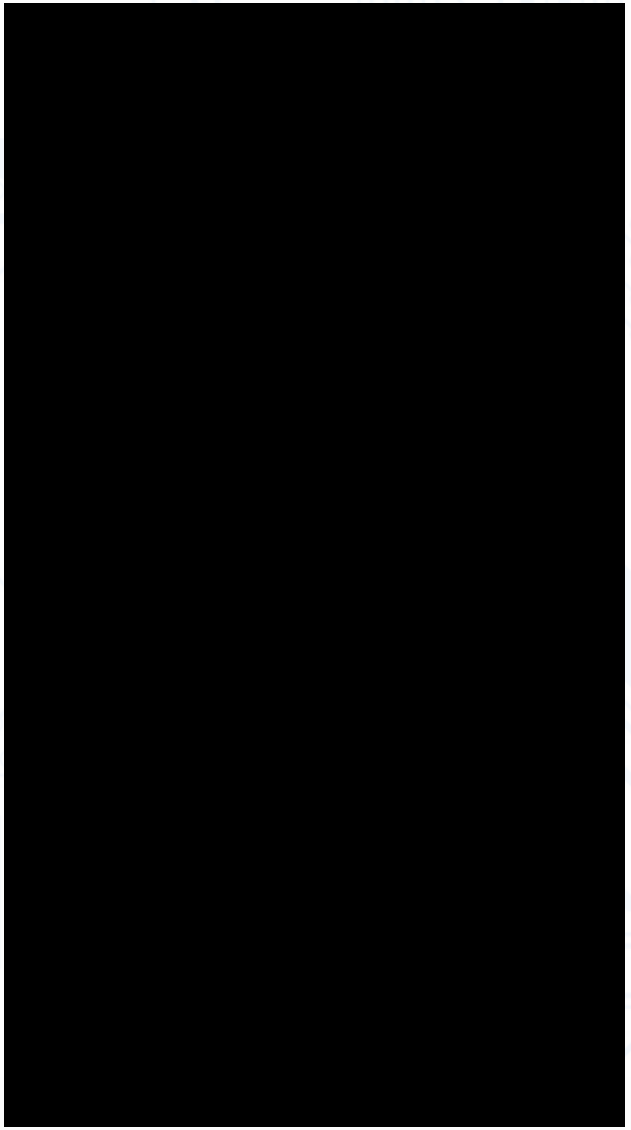
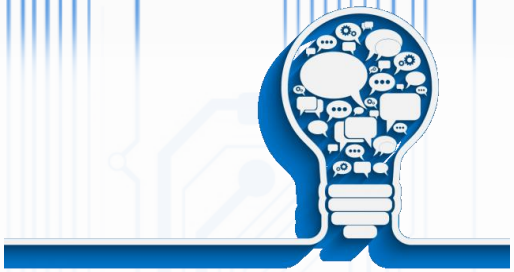


Student Task_9



- **Repeat this examples and make based on our task format**

  Send the aia file for task 3 and 4 design and block section with video

  - **And also write comment on example 5 and 6 about difference in acquiring the time and date**

Don’t forget your id number and name on all task and file

Next lecture

- **You have time to send your task**
- **Send the file in PPT(power point format) to JUST MOOC**
- **Your file should have this format of name**

  <Task number><student name><Student ID>.ppt

NOBODY CAN DO EVERYTHING, BUT EVERYONE CAN DO SOMETHING

PictureQuotes.com

Reference

- **https://coldstreams.com/appinventor/2015/03/12/using-timepicker-and-datepicker-for-entering-time-and-date-information/**

- **Teaching with AppInventor** http://appinventor.mit.edu/explore/teach.html
  AppInventor Tutorials: http://appinventor.mit.edu/explore/ai2/tutorials.html
- **Sounds** http://www.soundbible.com
- **App Inventor:** http://appinventor.googlelabs.com/
- **Appinventor.org:** http://www.appinventor.org/
- **Wolber, Abelson et al. text:** http://www.appinventor.org/text2011
- **Group:** http://groups.google.com/group/app-inventor-instructors
- **Wolber course:** http://appinventor.org/course-in-a-box
- **Morelli course:** http://turing.cs.trincoll.edu/~ram/cpsc110/

江西理工大学
Jiangxi University of Science and Technology
信息工程学院
School of information engineering

Digital Image Processing

THANK YOU

"BE HUMBLE. BE HUNGRY. AND ALWAYS BE THE HARDEST WORKER IN THE ROOM."