**A PROJECT REPORT**

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**(COMPUTER SCIENCE)**

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**INTRODUCTION OF THE PROJECT UNDERTAKEN**

The **Umpire Decision Review System** (**UDRS** or **DRS**) is a technology-based system used in [cricket](https://en.wikipedia.org/wiki/Cricket) to assist the match officials with their decision-making.

One of the most treasured memories of growing up is playing cricket with friends. Just like me, there are countless other people whose favourite part of the day is to grab a pair of bat and ball and just play. Gully cricket is the most popular form of sport, is played in everywhere. So, today’s project is going to be very helpful for those cricket fans who want to create their own decision review system.

The third empire takes the decision about no-ball, runout, or catch out. Here we are going to make the decision review system using python which will take an accurate decision about whether the batsman is out or not out.

DRS is used when umpire unable to give the decision or need help to clarify his decision then they use the DRS system which is made with help of PYTHON language , In which set of instructions of code is written when we run those code we made a DRS .

1. We use different libraries like tkinter,cv2,time,finctool etc.

2. First we made a GUI

3. Made GUI attractive

4. In last we assemble code and run it.

**GUI Programming in Python**

Python offers multiple options for developing GUI (Graphical User Interface). Out of all the GUI methods, tkinter is the most commonly used method. It is a standard Python interface to the Tk GUI toolkit shipped with Python. Python with tkinter is the fastest and easiest way to create the GUI applications. Creating a GUI using tkinter is an easy task.

**To create a tkinter app:**

1. Importing the module – tkinter
2. Create the main window (container)
3. Add any number of widgets to the main window
4. Apply the event Trigger on the widgets.

|  |  |
| --- | --- |
| 1 | [Button](https://www.tutorialspoint.com/python/tk_button.htm)  The Button widget is used to display buttons in your application. |
| 2 | [Canvas](https://www.tutorialspoint.com/python/tk_canvas.htm)  The Canvas widget is used to draw shapes, such as lines, ovals, polygons and rectangles, in your application. |
| 3 | [Checkbutton](https://www.tutorialspoint.com/python/tk_checkbutton.htm)  The Checkbutton widget is used to display a number of options as checkboxes. The user can select multiple options at a time. |
| 4 | [Entry](https://www.tutorialspoint.com/python/tk_entry.htm)  The Entry widget is used to display a single-line text field for accepting values from a user. |
| 5 | [Frame](https://www.tutorialspoint.com/python/tk_frame.htm)  The Frame widget is used as a container widget to organize other widgets. |
| 6 | [Label](https://www.tutorialspoint.com/python/tk_label.htm)  The Label widget is used to provide a single-line caption for other widgets. It can also contain images. |
| 7 | [Listbox](https://www.tutorialspoint.com/python/tk_listbox.htm)  The Listbox widget is used to provide a list of options to a user. |
| 8 | [Menubutton](https://www.tutorialspoint.com/python/tk_menubutton.htm)  The Menubutton widget is used to display menus in your application. |
| 9 | [Menu](https://www.tutorialspoint.com/python/tk_menu.htm)  The Menu widget is used to provide various commands to a user. These commands are contained inside Menubutton. |
| 10 | [Message](https://www.tutorialspoint.com/python/tk_message.htm)  The Message widget is used to display multiline text fields for accepting values from a user. |
| 11 | [Radiobutton](https://www.tutorialspoint.com/python/tk_radiobutton.htm)  The Radiobutton widget is used to display a number of options as radio buttons. The user can select only one option at a time. |
| 12 | [Scale](https://www.tutorialspoint.com/python/tk_scale.htm)  The Scale widget is used to provide a slider widget. |
| 13 | [Scrollbar](https://www.tutorialspoint.com/python/tk_scrollbar.htm)  The Scrollbar widget is used to add scrolling capability to various widgets, such as list boxes. |
| 14 | [Text](https://www.tutorialspoint.com/python/tk_text.htm)  The Text widget is used to display text in multiple lines. |
| 15 | [Toplevel](https://www.tutorialspoint.com/python/tk_toplevel.htm)  The Toplevel widget is used to provide a separate window container. |
| 16 | [Spinbox](https://www.tutorialspoint.com/python/tk_spinbox.htm)  The Spinbox widget is a variant of the standard Tkinter Entry widget, which can be used to select from a fixed number of values. |
| 17 | [PanedWindow](https://www.tutorialspoint.com/python/tk_panedwindow.htm)  A PanedWindow is a container widget that may contain any number of panes, arranged horizontally or vertically. |
| 18 | [LabelFrame](https://www.tutorialspoint.com/python/tk_labelframe.htm)  A labelframe is a simple container widget. Its primary purpose is to act as a spacer or container for complex window layouts. |
| 19 | [tkMessageBox](https://www.tutorialspoint.com/python/tk_messagebox.htm)  This module is used to display message boxes in your applications. |

Geometry Management

All Tkinter widgets have access to specific geometry management methods, which have the purpose of organizing widgets throughout the parent widget area. Tkinter exposes the following geometry manager classes: pack, grid, and place.

Add image in GUI:

[Tkinter](https://www.geeksforgeeks.org/python-gui-tkinter/) is a Python module which is used to create GUI (Graphical User Interface) applications with the help of varieties of widgets and functions. Like any other GUI module it also supports images i.e you can use images in the application to make it more attractive.

Image can be added with the help of PhotoImage() method. This is a Tkinter method which means you don’t have to import any other module in order to use it.

**Important:** If both image and text are given on [Button](https://www.geeksforgeeks.org/python-creating-a-button-in-tkinter/), the text will be dominated and only image will appear on the Button. But if you want to show both image and text then you have to pass **compound** in button options.

Example:

1. from tkinter import \*
2. root = Tk()
3. canvas = Canvas(root, width = 300, height = 300)
4. canvas.pack()
5. img = PhotoImage(file="ball.ppm")
6. canvas.create\_image(20,20, anchor=NW, image=img)
7. mainloop()

To display image in Python is as simple as that. But, the problem is PhotoImage class only supports GIF and PGM/PPM formats.

The more generalized formats are JPEG/JPG and PNG. To open and display with those formats, we need help of ImageTk and Image classes from PIL(photo imaging Library) package.

With the help of PIL(photo imaging Library), we can load images in over 30 formats and convert them to image objects, even base64-encoded GIF files from strings!