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API Documentation

This API provides a set of utility functions for creating and manipulating graphical user interfaces using `tkinter` in Python. It supports operations such as creating windows, adding widgets, handling timers, and managing user interactions.

create_window

Creates a new window with a specified title, width, and height.

Parameters:

- **title** (*str*): Title of the window.
- **width** (*int*): Width of the window in pixels.
- **height** (*int*): Height of the window in pixels.
- **resizable** (*bool*): Whether the window can be resized. Default is `True`.

Returns:

- A `tk.Tk` object representing the created window.

Example:

```
window = create_window("My App", 800, 600, resizable=False)
window.mainloop()
```

display_text

Displays a text label within a window.

Parameters:

- **root** (*tk.Tk*): The parent window.
- **text** (*str*): Text to display.
- **position** (*dict*): Position in format {"x": x_value, "y": y_value}.
- **size** (*dict*): Size in format {"width": width, "height": height}.
- **font** (*tuple*): Font style and size, e.g., ("Arial", 12).

Returns:

- A **tk.Label** object representing the text.

Example:

```
label = display_text(window, "Hello, World!", {"x": 50, "y": 50}, {"width": 200, "height": 30}, ("Arial", 14))
```

update_timer

Updates a timer display.

Parameters:

- **running** (*bool*): Whether the timer is running.
- **start_time** (*float*): Start time in seconds since epoch.
- **text_label** (*tk.Label*): Label to update with timer value.

Example:

```
update_timer(True, time.time(), label)
```

set_window_color

Sets the background color of a window.

Parameters:

- **window** (*tk.Tk*): The window object.
- **color** (*str*): Background color (e.g., "#FFFFFF" for white).

Example:

```
set_window_color(window, "#00FF00")
```

add_button

Adds a button to a window.

Parameters:

- **window** (*tk.Tk*): The parent window.
- **button_text** (*str*): Text displayed on the button.
- **position** (*dict*): Button position.
- **size** (*dict*): Button dimensions.

Returns:

- A `tk.Button` object.

Example:

```
button = add_button(window, "Click Me", {"x": 100, "y": 100}, {"width": 100, "height": 30})
```

set_button_action

Assigns an action to a button.

Parameters:

- **button** (*tk.Button*): The button object.
- **action** (*callable*): Function to execute on click.

Example:

```
def on_click():  
    print("Button clicked!")  
  
set_button_action(button, on_click)
```

remove_button

Removes a button from a window.

Parameters:

- **button** (*tk.Button*): The button to remove.

Example:

```
remove_button(button)
```

set_background_image

Sets a background image for a window.

Parameters:

- **window** (*tk.Tk*): The window object.
- **image_path** (*str*): Path to the image file.
- **fit** (*str*): How to adjust the image. Options: "cover", "contain", "stretch".

Example:

```
set_background_image(window, "background.jpg", fit="cover")
```

resize_window

Resizes an existing window.

Parameters:

- **window** (*tk.Tk*): The window object.
- **width** (*int*): New width in pixels.
- **height** (*int*): New height in pixels.

Example:

```
resize_window(window, 1024, 768)
```

move_window

Moves a window to a new position on the screen.

Parameters:

- **window** (*tk.Tk*): The window object.
- **position** (*dict*): New position in format {"x": x_value, "y": y_value}.

Example:

```
move_window(window, {"x": 200, "y": 300})
```

add_text_field

Adds a text input field to a window.

Parameters:

- **window** (*tk.Tk*): The parent window.
- **placeholder_text** (*str*): Default placeholder text.
- **position** (*dict*): Position of the text field.
- **size** (*dict*): Dimensions of the text field.

Returns:

- A **tk.Entry** object.

Example:

```
text_field = add_text_field(window, "Enter your name", {"x": 50, "y": 100},  
{"width": 200, "height": 30})
```

close_window

Closes a specified window.

Parameters:

- **window** (*tk.Tk*): The window to close.

Example:

```
close_window(window)
```

create_timer

Creates a timer display with start/stop buttons.

Parameters:

- **window** (*tk.Tk*): The parent window.
- **position** (*dict*): Timer position.
- **font** (*tuple*): Font style and size.
- **start_callback** (*callable*): Function to call when the timer starts.
- **stop_callback** (*callable*): Function to call when the timer stops.

Example:

```
create_timer(window, {"x": 100, "y": 50}, ("Arial", 14))
```
