

Bachelor of Science in Computer Science – 1B1
ITE-121 : INTERMEDIATE
PROGRAMMING

2nd Semester
Graphic User Interface Project
“TRAVEL GENIE”

Submitted by:

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Submitted to:

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Professor V

DESCRIPTION OF THE PROJECT

The Travel Genie is a simple graphic user interface application inspired in our Human Computer Interaction program course project, it uses Python's tkinter library to help users explore tourist destinations in Surigao del Norte, a province in the Philippines. The main window of the application has a login interface where users can enter their username and password. If they enter the correct credentials, they'll be logged in and directed to a window displaying tourist destinations in Surigao del Norte.

The login interface has fields for entering a username and password, along with a login button. If the user's username is "JeodyLaineSaez" and their password is "HelloWorld123", they'll be successfully logged in. Otherwise, they'll see an error message. Once logged in, the user is presented with a list of tourist destinations in Surigao del Norte. They can click on any destination to see more details about it, including information about how to get there, activities to do, and local delicacies to try. There are also images accompanying each destination's description.

Before I came up with the idea of Travel Genie, my first GUI presentation was just a simple login application. It asked users to enter their username and password, and if correct, it would lead them to another window where they could input more information like a data form. But later on, I got the idea to connect our Figma application in Human-Computer Interaction (HCI) to my programming GUI application. Initially, my GUI application only displayed limited text information and didn't include any images. But now, it has been carefully developed into a more advanced version. It shows detailed information that can be scrolled through, and it even includes accurate images. So, users not only see text but also get a visual representation of what they're reading about.

After finalizing the Travel Genie GUI application in Python using tkinter, I converted the Python file to an executable (exe) format. This conversion was necessary for a few reasons. Firstly, distributing a Python script requires users to have Python installed on their systems, which might not always be convenient or feasible. Converting it to an executable allows users to run the application without needing to install Python separately. This increases the accessibility of the application to a wider audience. Secondly, converting to an exe can help protect the source code. While Python scripts are relatively easy to read and modify, converting to an executable format obfuscates the code, making it harder for users to access and alter the underlying logic. This can be beneficial for protecting intellectual property or sensitive information embedded within the application.

Additionally, an executable file provides a more polished and professional appearance compared to a Python script. Users are accustomed to running applications through executable files, so providing them with an exe enhances the

user experience and instills confidence in the reliability and professionalism of the application.

SIGNIFICANCE / BENEFITS OF MY GUI PYTHON PROGRAM

By creating a Travel Genie GUI application, developers contribute to the local economy and cultural heritage of Caraga region where Surigao del Norte is part of. The application helps attract visitors to the area, supporting local businesses, preserving cultural sites, and promoting sustainable tourism practices. By consolidating information about multiple tourist destinations into a single application, users can conveniently access all the details they need in one place. They don't have to search through multiple websites or travel guides, saving time and effort in trip planning. But of course this GUI application has its limit, the tourist destination options and details are not yet inserted and is in for proofreading to ensure accurate data distribution.

Users can also access detailed information about tourist destinations in Surigao del Norte, including location details, how to get there, activities, local delicacies, and travel tips. This comprehensive information helps users plan their trips effectively and make informed decisions about their travel experiences. The inclusion of images alongside text descriptions enhances the user experience by providing a visual representation of each destination. This allows users to better visualize the places they're reading about and adds to the overall engagement and appeal of the application.

OBJECTIVES / PURPOSE

The objectives upon the creation of this code are as follows:

- Develop a user-friendly and aesthetic graphical interface using tkinter to interact with users. The interface should provide a visually appealing layout for users to navigate easily.
- Implement a login system where users can input their username and password. Upon successful authentication, users should gain access to the main functionalities of the application.
- Present a list of tourist destinations in Surigao del Norte for users to explore. Each destination should include detailed information such as descriptions, activities, how to get there, local delicacies, and accompanying images.
- Allow users to interact with the application by clicking on destinations to view more detailed information. Provide a button or mechanism to trigger the display of detailed destination information.
- Ensure that the content displayed dynamically adjusts based on user interactions, such as selecting different destinations or logging in with correct credentials.

- Organize the code into modular components for better readability, maintainability, and reusability. Use functions to encapsulate logical units of functionality and separate concerns where appropriate.
- Enable scrolling functionality for long text descriptions to ensure that all information can be accessed even if it exceeds the visible area of the window.
- Implement error handling mechanisms to notify users of incorrect login credentials and provide feedback on the success or failure of actions performed within the application.

FEATURES

1. GUI Layout and Design:
 - This code creates a graphical user interface (GUI) using tkinter, a Python library for creating GUI applications.
 - It incorporates a visually appealing layout with a centered window, background color customization, and inclusion of images for a more engaging user experience.
 - The interface includes labeled entry fields for username and password, a login button, and a scrollable listbox to display tourist destinations, enhancing usability.
2. User Authentication and Error Handling:
 - It implements user authentication functionality where the application verifies the entered username and password against predefined credentials.
 - Error handling is integrated to notify users of incorrect login attempts via pop-up message boxes, ensuring a smooth user experience.
 - Upon successful login, the user is granted access to detailed information about tourist destinations, promoting user engagement and satisfaction.
3. Displaying Destination Information:
 - The code dynamically populates a listbox with names of tourist destinations, allowing users to select a destination of interest.
 - Detailed information about the selected destination, including an overview, directions, activities, and local delicacies, is displayed in a separate window upon user interaction.
 - Images associated with each destination are loaded and resized to fit the interface, enriching the user experience with visual content alongside textual descriptions.

GUI PYTHON PROGRAM (INPUT)

```
import tkinter as tk
from tkinter import messagebox

window = tk.Tk()
window.title("Travel Genie")

# Get the screen width and height
screen_width = window.winfo_screenwidth()
screen_height = window.winfo_screenheight()

# Calculate the position to center the window
x = (screen_width - 600) // 2
y = (screen_height - 600) // 2

# Set the window position and size
window.geometry(f"600x600+{x}+{y}")
# Set background color
window.configure(bg="#E6CCFF")

# Load the logo image and resize it
logo_image =
tk.PhotoImage(file="C:/Users/user/Downloads/TravelGenie1.png")
logo_image = logo_image.subsample(3) # Resize to 1/5 of the
original size for 2x2

# Create a frame to hold the logo and login components
frame = tk.Frame(window, bg="#E6CCFF")
frame.pack(pady=30) # Add padding at the top

# Create a label to display the logo image
logo_label = tk.Label(frame, image=logo_image, bg="#E6CCFF")
logo_label.image = logo_image # Keep a reference to the image
logo_label.pack() # Pack the logo label

# Add padding between the logo and login components
tk.Label(window, text=" ", bg="#E6CCFF").pack()

username_frame = tk.Frame(window, bg="#E6CCFF")
username_label = tk.Label(username_frame, text="Username",
font=('Arial', 14), bg="#E6CCFF")
username_label.pack(side='left')
username_entry = tk.Entry(username_frame)
username_entry.pack(side='right')
username_frame.pack()

# Add padding between the username and password fields
tk.Label(window, text=" ", bg="#E6CCFF").pack()

password_frame = tk.Frame(window, bg="#E6CCFF")
```

```

password_label = tk.Label(password_frame, text="Password",
font=('Arial', 14), bg="#E6CCFF")
password_label.pack(side='left')
password_entry = tk.Entry(password_frame, show="*")
password_entry.pack(side='right')
password_frame.pack()

# Add padding between the password field and login button
tk.Label(window, text=" ", bg="#E6CCFF").pack()

login_button = tk.Button(window, text="Login", bg='#805AD5',
fg='#FFFFFF')
login_button.pack() # Added missing parentheses

def login():
    username = username_entry.get()
    password = password_entry.get()

    if username == 'JeodyLaineSaez' and password ==
'HelloWorld123':
        print(f"Username: {username}, Password: {password}")
        messagebox.showinfo("Success", "Successfully logged
in")
        clear_entries()
        open_surigao_window()
    else:
        messagebox.showerror("Error", "Incorrect username or
password")
        clear_entries()

def clear_entries():
    username_entry.delete(0, tk.END)
    password_entry.delete(0, tk.END)

username_entry.focus()

login_button.config(command=login) # Configured login button
command

def open_surigao_window():
    # Destroy any existing Surigao window
    for widget in window.wininfo_children():
        widget.destroy()
    surigao_window = tk.Toplevel(window)
    surigao_window.title("Tourist Destinations in Surigao del
Norte")

```

```

# Calculate the position to center the window
window_width = 600
window_height = 600
screen_width = surigao_window.winfo_screenwidth()
screen_height = surigao_window.winfo_screenheight()
x = (screen_width - window_width) // 2
y = (screen_height - window_height) // 2

surigao_window.geometry(f"{window_width}x{window_height}+{x}+{y}")
surigao_window.configure(bg="#E6CCFF") # Set background color

destinations_info = {
    "Mabua Pebble Beach": {
        "info": ""Mabua Pebble Beach is a unique natural attraction located in Surigao City, Philippines. Unlike typical sandy beaches, Mabua Pebble Beach is covered in smooth, rounded stones of various sizes and colors, giving it a distinct and picturesque appearance. These stones, polished over time by the waves of the Pacific Ocean, create a stunning contrast against the azure waters.

Towards the water, on the right, is a rock formation. It is simple to ascend the rocks but exercise additional caution because some of the rocks have slick edges. The stones are exceptionally white here, especially in the summer, and the waters are crystal pure. Because certain areas on our feet are related to our internal organs, strolling barefoot on smooth stones has an effect on the body, making this beach both beautiful and restorative.""",
        "image": "C:/Users/user/Downloads/pebble-beach.png", # Update with actual image path
        "get_there": "From Surigao Integrated Bus Terminal, take a motorcycle or a tricycle (motorized three-wheeled vehicle) from the trike terminal to Mabua located along Sarvida St. just beside Palma Trade Center. The tricycle will then take you straight to Mabua Beach with 30 minutes travel time.",
        "activities": ""Visitors to Mabua Pebble Beach can enjoy activities such as beachcombing, photography, picnicking, and simply taking in the breathtaking scenery. The sound of the waves rolling over the pebbles adds to the serene ambiance of the place, making it a popular destination for relaxation and unwinding.

Additionally, Mabua Pebble Beach offers opportunities for swimming and snorkeling, although the presence of pebbles instead of sand underfoot may require some adjustment for those accustomed to traditional sandy beaches.""",
    }
}

```

```
        "delicacy": "Sayongsong is a traditional Filipino delicacy, particularly popular in Surigao del Norte, where Mabua Pebble Beach is located. It is a sweet and sticky dessert made from glutinous rice flour, coconut milk, and sugar, then wrapped in cone-shaped banana leaves and steamed until cooked."
```

```
    },
```

```
    "Day-asan Floating Village": {
```

```
        "info": "Day-asan Floating Village is a unique and picturesque community located in Barangay Day-asan, Surigao City, Philippines. What sets it apart from typical villages is that it is built entirely on water, with houses standing on stilts above the sea. This floating village is home to a vibrant community of fishermen and their families, who have adapted to a lifestyle intricately connected to the surrounding waters. Interestingly, because of the similar features/nature the humble village got its tag as the "little Venice of Surigao City",
```

```
        "image": "C:/Users/user/Downloads/Day-asan-Floating_Village.png", # Update with actual image path
```

```
        "get_there": "Day-Asan is accessible either by land or by sea. Motorized boats going to the village are docked in the City Wharf while habal-habal/ motorcycles for hire are stationed near the City public market. Fare ranges from 25 to 50 pesos. Travel time is around 15 to 30 minutes.",
```

```
        "activities": """"Visitors to Day-asan Floating Village can immerse themselves in the culture and daily activities of the residents, experiencing firsthand how they navigate their homes and livelihoods on the water.
```

Aside from observing the daily life of the community, tourists can engage in various activities during their visit to Day-asan Floating Village. These activities may include boat tours around the village, kayaking through the tranquil waters, interacting with locals to learn about their customs and traditions, and enjoying fresh seafood delicacies prepared by local eateries. The floating village also presents excellent opportunities for photography enthusiasts, with its scenic backdrop of colorful houses standing against the vast expanse of the sea.""",

```
        "delicacy": """"Kinilaw is a popular Filipino dish similar to ceviche, where raw seafood, typically fish or shrimp, is marinated in vinegar, citrus juice, onions, chili peppers, and spices. It's a refreshing and flavorful appetizer commonly enjoyed in coastal regions like Surigao.
```

Adobong Saang is a traditional Filipino dish made from saang or spider conch, a type of shellfish commonly found in coastal areas. The saang meat is cooked in adobo-style, simmered in a mixture of vinegar, soy sauce, garlic, onions, and spices until tender and flavorful.

Day-asan Floating Village is also renowned for its abundance of fresh seafood, and visitors can indulge in a variety of sizzling seafood dishes prepared to order. From succulent shrimp and flavorful fish to tender squid and juicy shellfish, the options are diverse and tantalizing."""

},

"Silop Cave": {

"info": """Silop Cave is known for its stunning limestone formations and crystal-clear underground rivers with 6 cave system. When you enter the cave, you're greeted by a cool breeze and the sound of dripping water echoing through the chambers. The cave is home to various species of bats and swiftlets, adding to its mystique.

An entrance fee of P100/head is allocated for the safety gears you'll need for spelunking. So after the registration process, we started taking the path to the entrance of one of the caves, but before reaching the cave, we have to survive the muddy and slippery trail route to the entrance of the recently opened cave 7. The entrance of cave 7 is very narrow that you have to crawl to be able to enter the cave. Amazement comes after entering our first cave."""

"image": "C:/Users/user/Downloads/Silop-Cave.png",

Update with actual image path

"get_there": "Silop Cave is located at Brgy. Silop, Surigao City. It is a 20 minutes ride from the city center. You can either take a jeep bound to arellano then alight at the barangay Silop junction or you can hail a habal-habal that would take you directly to Silop Barangay Hall where the registration process takes place.",

"activities" : "One of the main attractions is exploring the cave system, which offers an adventure-filled experience. Inside the cave, visitors can marvel at the mesmerizing stalactites and stalagmites formed over thousands of years. The cool breeze and the sound of dripping water create a mystical ambiance as tourists venture deeper into the cave's chambers. Additionally, Silop Cave provides opportunities for spelunking, allowing adventurers to navigate through narrow passages and crawl through tight spaces, adding to the thrill of exploration. For nature enthusiasts, observing the diverse bat and swiftlet populations that call the cave home can be a fascinating experience."""

"delicacy": """One of the distinctive delicacies found in the area is "tamilok," which are woodworms harvested from decaying mangrove trees. Despite its appearance, tamilok is considered a delicacy and is typically eaten raw or marinated in vinegar and spices. It offers a unique flavor profile, often described as salty and slightly acidic, with a chewy texture.

Additionally, visitors to Silop Cave might encounter other

local delicacies such as "kinilaw," a traditional Filipino dish made from raw fish marinated in vinegar, calamansi juice, onions, ginger, and chili peppers. Kinilaw showcases the freshness of seafood and highlights the flavors of the region. Another delicacy to try is "tinolang isda," a fish soup cooked with ginger, garlic, onions, and various local vegetables, providing a comforting and hearty dining experience. ""

},

"Basul Island": {

"info": ""Basul Island, located off the coast of Surigao City in the Philippines, is a breathtaking destination known for its pristine beaches and crystal-clear waters. It's a small island, but it packs a punch when it comes to natural beauty. The powdery white sand beaches are perfect for sunbathing and relaxation, while the surrounding turquoise waters offer great opportunities for swimming, snorkeling, and diving. You can explore the colorful coral reefs teeming with marine life, or simply enjoy the tranquil atmosphere and stunning views. Basul Island is also home to lush greenery and coconut palm trees, providing shady spots to escape the heat. There are no rooms available on the island but there are several open-air cottages that are for rent. There's an entrance fee of 50 pesos per person plus 100 pesos boat docking fee being collected by the islands' caretaker. There are also no stores on the island so better bring your own food if you plan on going there. You can also stay overnight but you need to bring your own tent. There is no electricity on the island but globe signal is strong.""

"image": "C:/Users/user/Downloads/Basul-Island.png", # Update with actual image path

"get_there": ""From the airport, take a tricycle or multicab to reach the port. At the port, you'll find boats or ferries that offer trips to various islands, including Basul Island. Depending on the boat schedule, you may need to wait for the next available trip to Basul Island. Once you've found a boat, arrange for your transport and purchase tickets. Prices and schedules may vary, so be sure to confirm details with the boat operator. The travel time from Surigao City Port to Basul Island is 20-30 minutes.""

"activities": ""For those craving a leisurely day by the sea, the island's pristine beaches beckon with soft, powdery sands and tranquil waters perfect for swimming and sunbathing. Snorkeling enthusiasts can explore vibrant coral reefs teeming with colorful marine life, while diving enthusiasts can delve deeper into the underwater world, discovering hidden treasures beneath the waves. Adventurous souls can embark on island-hopping excursions to nearby islets, discovering secluded coves and untouched landscapes. Hiking trails meander through the island's lush interior, providing opportunities to immerse oneself in nature and soak in panoramic views of the surrounding seascape. Kayaking and

paddleboarding are also popular activities, allowing visitors to navigate the island's pristine coastline at their own pace.""",

"delicacy": "One of the delicacies that you might find on Basul Island is fresh seafood, caught daily by local fishermen. Grilled fish, shrimp, and squid are commonly enjoyed dishes, cooked simply with local herbs and spices, showcasing the natural flavors of the sea. Another delicacy you might encounter is coconut-based dishes, such as kinilaw na lato (seaweed salad) made with fresh seaweed harvested from the surrounding waters and seasoned with coconut vinegar and spices. Additionally, you may come across traditional Filipino snacks like bibingka (rice cake) or suman (sticky rice cooked in banana leaves), which are often enjoyed as treats during gatherings or special occasions."

},

"San Nicolas de Tolentino Cathedral": {

"info": "San Nicolas de Tolentino Cathedral, a beautiful mid-17th-century church located in the center of the city. The church was originally built in 1754 by the Order of Augustinian Recollects. It was damaged by bombing during WWII and was reconstructed in 1988. Today, it is considered the biggest Augustinian cathedral in the Surigao Region and a place for reflection and rest among the locals.",

"image": "C:/Users/user/Downloads/San-Nicolas-de-Tolentino-Cathedral.png", # Update with actual image path

"get_there": "To get to the cathedral, one can use public transportation like buses or tricycles, or opt for private vehicles or taxis. The church is centrally located in Surigao City, making it easily accessible to both locals and tourists. Additionally, visitors can explore the surrounding area, which may include historical landmarks, parks, and local markets, adding to the overall experience of visiting the cathedral and the city.",

"activities": "Apart from attending regular religious services like Mass, people can participate in special events such as weddings, baptisms, and religious celebrations. The church also hosts community gatherings and outreach programs to help those in need.",

"delicacy": ""Balut is a fertilized duck egg with a partially developed embryo inside, boiled and eaten as a snack.

Taho is a sweet Filipino snack made of fresh soft/silken tofu, arnibal (sweet syrup), and sago pearls (similar to tapioca pearls).

Banana Cue is a deep-fried banana coated in caramelized brown sugar, skewered on a stick.

Fish Balls is a deep-fried balls made from fish paste, served

with a sweet and tangy sauce.

Salvaro is a A traditional delicacy made from pounded, sun-dried, and fried cassava. It is often shaped into thin, round discs and fried until crispy. The process of pounding and drying the cassava gives salvaro a unique texture that is crunchy yet slightly chewy. It is usually seasoned with salt or sugar, depending on personal preference.

Bibingka is a type of rice cake made from ground rice, coconut milk, sugar, and sometimes eggs. It is traditionally cooked in clay pots lined with banana leaves over hot coals, giving it a distinct flavor and aroma. Bibingka sa Delicacy is often served warm, topped with butter, grated coconut, and sometimes salted eggs or cheese for added richness."""

```
    },

}

scrollbar = tk.Scrollbar(surigao_window, bg="#6A0DAD")
scrollbar.pack(side=tk.RIGHT, fill=tk.Y)

# Set a fixed width for the list box
destination_listbox = tk.Listbox(surigao_window,
yscrollcommand=scrollbar.set, width=30)

for destination in destinations_info.keys():
    destination_listbox.insert(tk.END, destination)

destination_listbox.pack(side=tk.LEFT, fill=tk.BOTH)

# Configure list box to adjust its height based on the
number of items
destination_listbox.config(height=len(destinations_info))

scrollbar.config(command=destination_listbox.yview)

def show_destination_info():
    selected_index = destination_listbox.curselection()
    if selected_index:
        selected_destination =
destination_listbox.get(selected_index)
        info =
destinations_info[selected_destination]["info"]
        get_there =
destinations_info[selected_destination]["get_there"]
        activities =
destinations_info[selected_destination]["activities"]
        delicacy =
destinations_info[selected_destination]["delicacy"]
        image_path =
```

```

destinations_info[selected_destination]["image"] # Get image
path

        # Create a new window to display detailed
information
        detail_window = tk.Toplevel(window)
        detail_window.title(selected_destination)

        # Calculate the position to center the window
        x = (screen_width - window_width) // 2
        y = (screen_height - window_height) // 2

detail_window.geometry(f"{window_width}x{window_height}+{x}+{y}
")
        detail_window.configure(bg="#E6CCFF") # Set
background color

        # Load and resize the image
        image = tk.PhotoImage(file=image_path)
        image = image.subsample(2) # Resize the image
        image_label = tk.Label(detail_window, image=image,
bg="#E6CCFF")
        image_label.image = image # Keep a reference to
the image
        image_label.pack()

        # Create a frame to hold the scrollable text
        text_frame = tk.Frame(detail_window, bg="#E6CCFF")
        text_frame.pack(fill=tk.BOTH, expand=True)

        # Create a scrollbar for the text
        scroll_y = tk.Scrollbar(text_frame,
orient="vertical")
        scroll_y.pack(side=tk.RIGHT, fill=tk.Y)

        # Create a Text widget for displaying information
        info_text = tk.Text(text_frame, wrap=tk.WORD,
yscrollcommand=scroll_y.set, bg="#E6CCFF")
        info_text.pack(side=tk.LEFT, fill=tk.BOTH,
expand=True)

        # Configure the scrollbar
        scroll_y.config(command=info_text.yview)

        # Insert information into the Text widget
        info_text.insert(tk.END, "Overview\n" + info +
"\n\n")
        info_text.insert(tk.END, "How to get there:\n" +
get_there + "\n\n")
        info_text.insert(tk.END, "Activities:\n" +

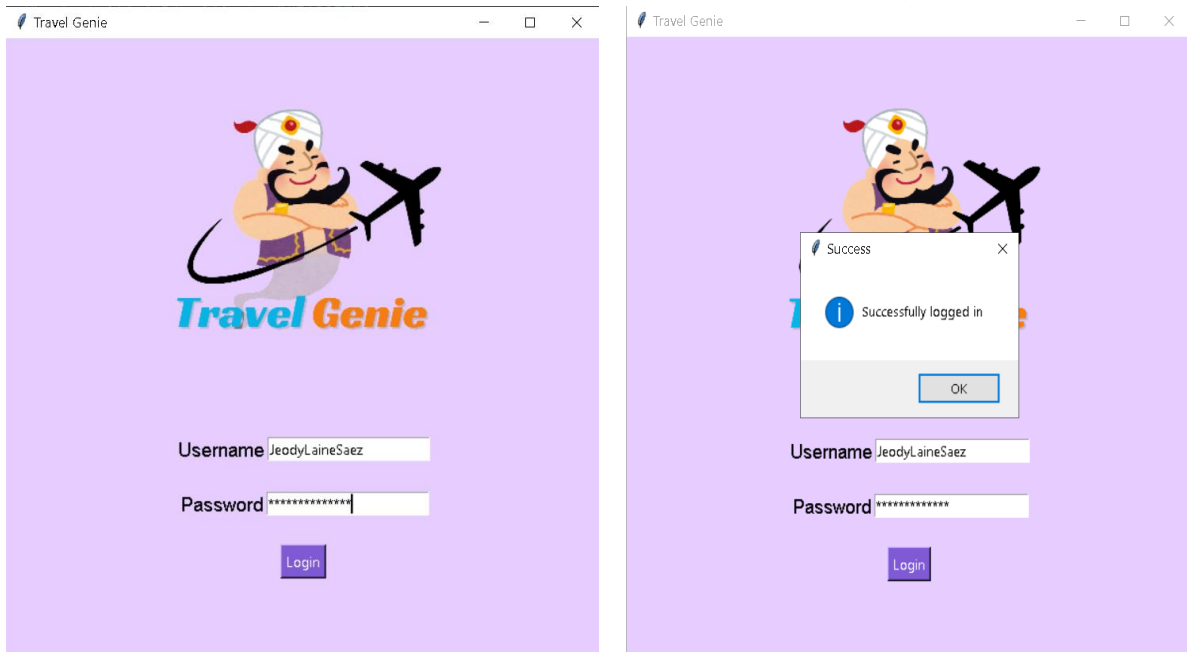
```

```
activities + "\n\n")
    info_text.insert(tk.END, "Local Delicacy:\n" +
delicacy + "\n\n")

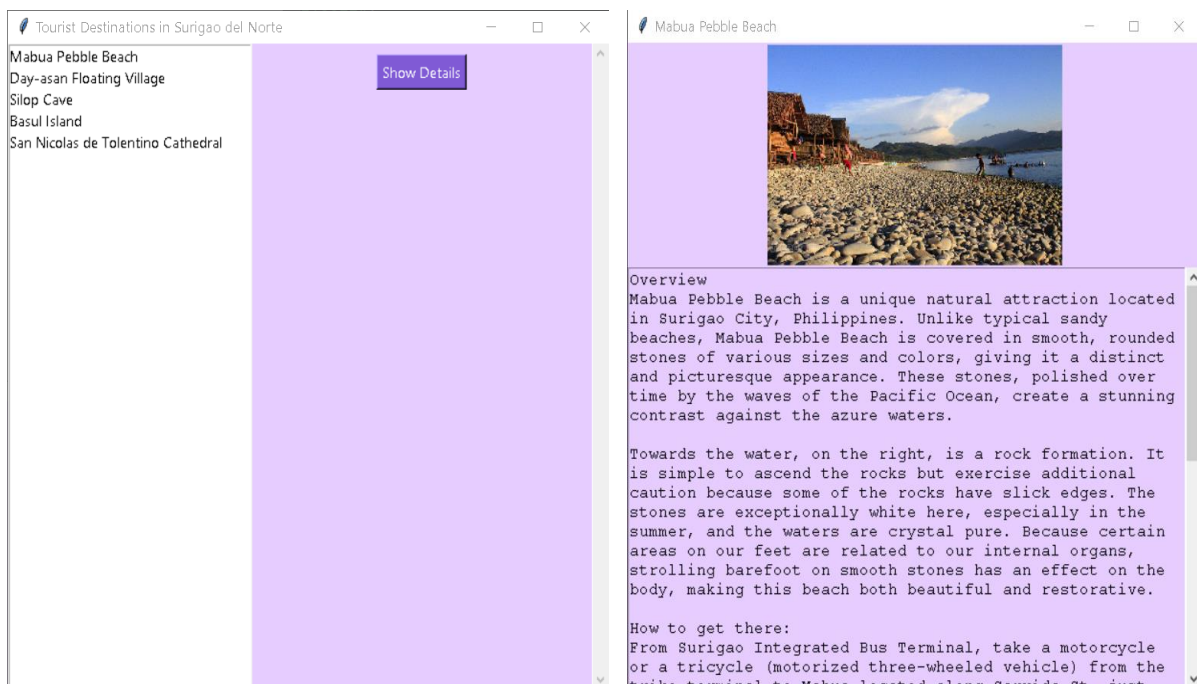
    destination_info_button = tk.Button(surigao_window,
text="Show Details", command=show_destination_info,
                                bg="#805AD5",
fg="#FFFFFF")
    destination_info_button.pack(pady=10)

window.mainloop()
```

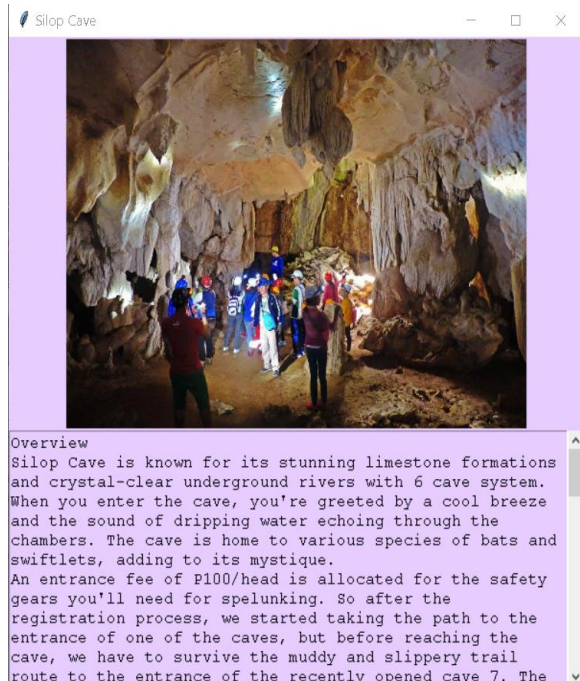
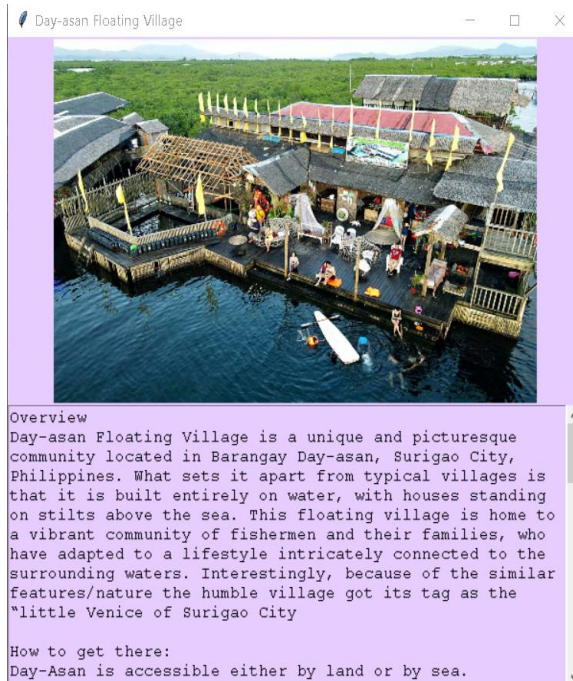
GUI PYTHON PROGRAM (OUTPUT)



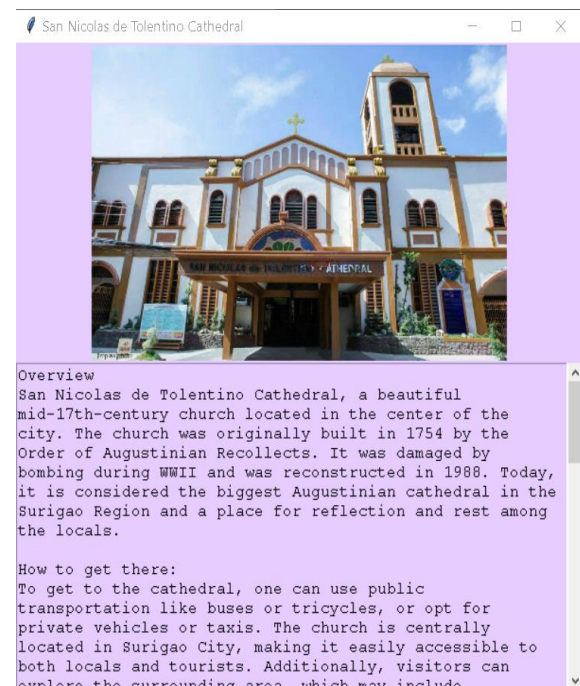
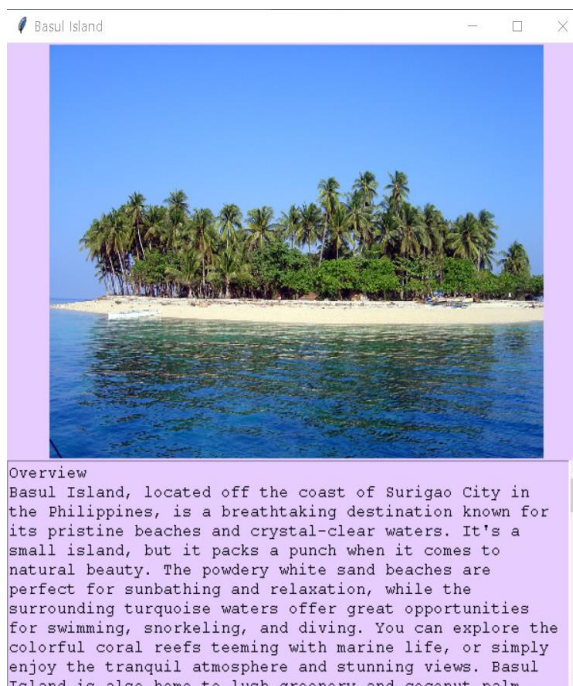
Log-in Feature



Main Window Showing Different Tourist Destination in Surigao Del Norte



The application provided a comprehensive detail from each destination, including information on the location, how to get there, activities, local delicacies, and travel tips that enriches the user experience and helps users plan their trips effectively.



It uses list box, buttons, scrollbar, label, and main frame to organize the widget in place we want it to be displayed and positioned.

CURRICULUM VITAE



PERSONAL INFORMATION

Name : Jeody Laine E. Saez
Contact Number: 09205182200
Email address: saezjeodylaine@gmail.com
Date of Birth: June 05, 2005
Place of Birth: Manila
Address: Purok 5, Barangay Bonifacio, Surigao City
Age: 18
Nationality: Filipino
Religion: Iglesia Filipina Independiente
Civil Status: Single
Father's Name: Teody Z. Saez
Mothers's Name: Alanita E. Saez

EDUCATIONAL BACKGROUND

Elementary: Surigao City Central Elementary School
Diez Street corner Amat Street, Brgy. Taft, Surigao City, Surigao del Norte
Junior High School: Northeastern Mindanao Colleges
Rizal Street corner Amat Street, Brgy. Taft, Surigao City, Surigao del Norte
Senior High School: Caraga Regional Science High School
Roland Sering Street, Purok 10, Brgy. San Juan, Surigao City, Surigao del Norte
College University: Surigao Del Norte State University
Narciso Street, Barangay Taft, Surigao City, Surigao del Norte