



Development Log Phase 1

1: 6/25/2025 Wednesday

- I finished the basic environment and requirements for the basic website.

I finished:

- **modify app.py**
- **config.py**
- **requirements.py**
- **runtime.txt**
- **.gitignore**

2: 6/26/2025 Thursday

- I learnt what is the Virtual Environment and Dynamic Routes, and I learnt and review what are their concepts and roles
- I finished a small Flask assignment - *Creat a dynamic route/puppy_latin/<name> that converts the name into Puppy Latin based on whether it ends with 'Y', and displays it on the webpage* - **in this assignment, I forgot how to slice the last letter in strings in python. Therefore, I review the slicing skills, and I learnt how to slice the letter**

and add a new one. Furthermore, I also review the unequal skills in python language.

For the online courses: Flask Section 7:

- 61 Virtual Environments
- 62 Flask Basics
- 63 Basic Routes
- 64 Flask Dynamic Routing
- 65 Debug Mode
- 66 Flaks Routing Exercise
- 67 Flask Routing Exercises Solution

3:6/26/2025 Friday

Task: I finished

- **model/user.py and**
- **model/__init__.py**

For the online courses:

- Flask: Section10: **81:Python and Databases** and **82:Python and Databases Part One**

In the real developing

In the real development:

4:2025/6/27 Friday -2025/7/4 Friday

I meet lots of troubles today because I should figure out what are logic files working in the Whole Flask project structure because I have logic folder in my whole flask structure. I am going to use Flask-WTF webpage to build and upgrade my website. However

5: 2025/7/7 Monday - 2025/7/8 Tuesday

Task:

- Template/base.html
- Template/M02.html
- static/css/m02_user.css

Course:

Flask: Section9: 1-5

Figma: Section 4, 17, 20

6: 2025/7/9 - 2025/7/11

Task:

- forms/m02_user
- logic/m02_user
- model/user.py update
- Add: Blueprint

This is a challenging phase for me because I have to figure out the structure and logic files in this phase, and I also need to update my model file.

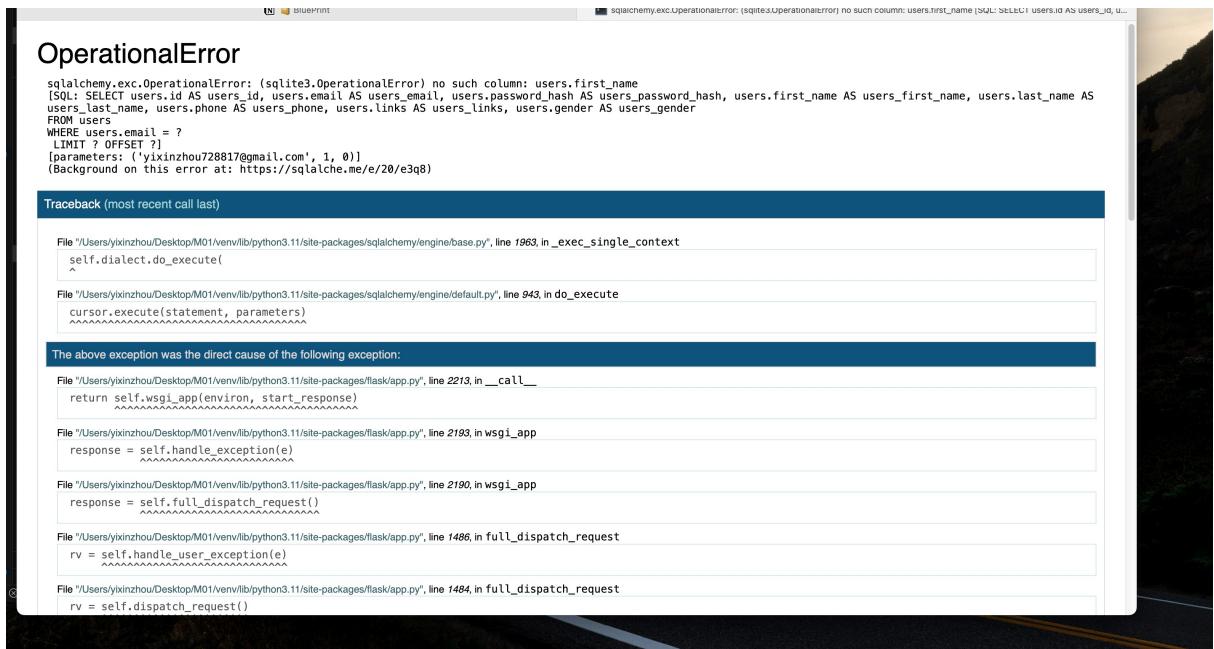
Furthermore, I added the Blueprint concept to my whole Flask structure. However, I met lots of troubles, including Jinja language, Blueprint usage, SQL databases, and I was confused about the basic logic among the logic, forms, and models folders. During development, I had to import numerous things such as flash and render_template. I also needed to import other classes from other files, such as from .auth import RegistrationForm. I made lots of mistakes here. For example, I forgot to write form=form, which caused the web pages not to load or open properly, especially with Jinja.

Another huge problem was Blueprint. Blueprint is a method for developing modular functions. However, I was confused about the effects of the logic files and the Blueprint parts. I thought I should modify my Flask structure; however, I searched online and used a book named *Flask Web Development*. I learned that the Blueprint part can be written in the same file as the file in the logic folder. However, I had to modify my app.py file. Furthermore, I had to recreate my SQL database because I modified my file in the models folder without using Flask-Migrate. I ran into one error after another and spent a full three hours straight debugging my code.

```
werkzeug.routing.exceptions.BuildError: Could not build url for endpoint 'login'. Did you mean 'auth.login' instead? // Werkzeug Debugger
```

Traceback (most recent call last):

```
File "/Users/yixinzhou/Desktop/M01/env/lib/python3.11/site-packages/flask/app.py", line 2213, in __call__
    return self.wsgi_app(environ, start_response)
       ~~~~~
File "/Users/yixinzhou/Desktop/M01/env/lib/python3.11/site-packages/flask/app.py", line 2193, in wsgi_app
    response = self.handle_exception(e)
       ~~~~~
File "/Users/yixinzhou/Desktop/M01/env/lib/python3.11/site-packages/flask/app.py", line 2180, in wsgi_app
    response = self.full_dispatch_request()
       ~~~~~
File "/Users/yixinzhou/Desktop/M01/env/lib/python3.11/site-packages/flask/app.py", line 1486, in full_dispatch_request
    rv = self.handle_user_exception(e)
       ~~~~~
File "/Users/yixinzhou/Desktop/M01/env/lib/python3.11/site-packages/flask/app.py", line 1484, in full_dispatch_request
    rv = self.dispatch_request()
       ~~~~~
File "/Users/yixinzhou/Desktop/M01/env/lib/python3.11/site-packages/flask/app.py", line 1469, in dispatch_request
    return self.ensure_sync(self.view_functions[rule.endpoint])(*view_args)
       ~~~~~
File "/Users/yixinzhou/Desktop/M01/app.py", line 25, in index
    return render_template('index.html')
       ~~~~~
File "/Users/yixinzhou/Desktop/M01/env/lib/python3.11/site-packages/flask/templating.py", line 157, in render
    return render(app, template, context)
       ~~~~~
File "/Users/yixinzhou/Desktop/M01/env/lib/python3.11/site-packages/flask/templating.py", line 132, in _render
    rv = Template.render(context)
       ~~~~~
File "/Users/yixinzhou/Desktop/M01/env/lib/python3.11/site-packages/jinja2/environment.py", line 1295, in render
    self.environment.handle_exception()
       ~~~~~
File "/Users/yixinzhou/Desktop/M01/templates/index.html", line 16, in top-level template code
    href="{{ url_for('login') }}">>Login</a>
File "/Users/yixinzhou/Desktop/M01/env/lib/python3.11/site-packages/flask/app.py", line 1697, in url_for
    return self.handle_url_build_error(error, endpoint, values)
       ~~~~~
```



```
sqlalchemy.exc.OperationalError: (sqlite3.OperationalError) no such column: users.first_name
[SQL: SELECT users.id AS users_id, users.email AS users_email, users.password_hash AS users_password_hash, users.first_name AS users_first_name, users.last_name AS users_last_name, users.phone AS users_phone, users.links AS users_links, users.gender AS users_gender
FROM users
WHERE users.email = ?
    LIMIT ? OFFSET ?]
[parameters: ('yixinzhou28817@gmail.com', 1, 0)]
[Background on this error at: https://sqlalche.me/e/20/e3q8]
```

Traceback (most recent call last)

```
File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/sqlalchemy/engine/base.py", line 1963, in _exec_single_context
    self.dialect.do_execute(
    ^
File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/sqlalchemy/engine/default.py", line 943, in do_execute
    cursor.execute(statement, parameters)
    ^^^^^^^^^^

The above exception was the direct cause of the following exception:

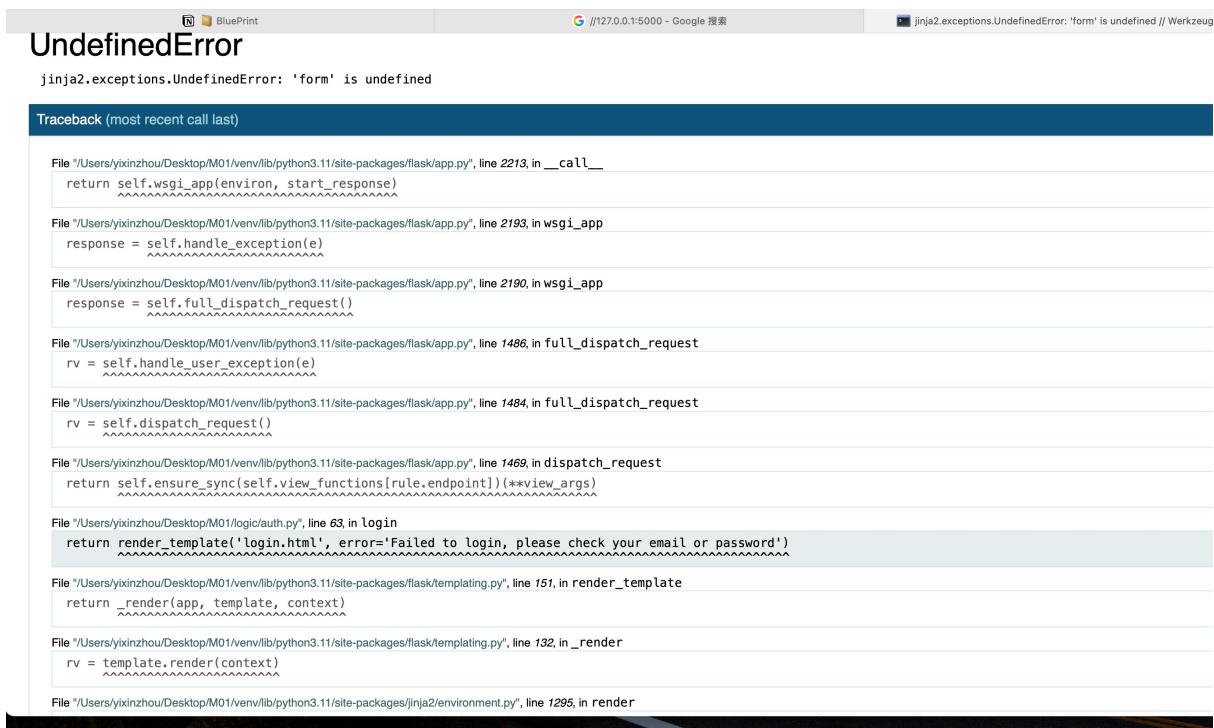
File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 2213, in __call__
    return self.wsgi_app(environ, start_response)
    ^^^^^^^^^^

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 2193, in wsgi_app
    response = self.handle_exception(e)
    ^^^^^^^^^^

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 2190, in wsgi_app
    response = self.full_dispatch_request()
    ^^^^^^^^^^

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 1486, in full_dispatch_request
    rv = self.handle_user_exception(e)
    ^^^^^^^^^^

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 1484, in full_dispatch_request
    rv = self.dispatch_request()
    ^^^^^^^^^^
```



```
jinja2.exceptions.UndefinedError: 'form' is undefined
```

Traceback (most recent call last)

```
File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 2213, in __call__
    return self.wsgi_app(environ, start_response)
    ^^^^^^^^^^

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 2193, in wsgi_app
    response = self.handle_exception(e)
    ^^^^^^^^^^

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 2190, in wsgi_app
    response = self.full_dispatch_request()
    ^^^^^^^^^^

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 1486, in full_dispatch_request
    rv = self.handle_user_exception(e)
    ^^^^^^^^^^

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 1484, in full_dispatch_request
    rv = self.dispatch_request()
    ^^^^^^^^^^

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 1469, in dispatch_request
    return self.ensure_sync(self.view_functions[rule.endpoint])(**view_args)
    ^^^^^^^^^^

File "/Users/yixinzhou/Desktop/M01/logic/auth.py", line 63, in login
    return render_template('login.html', error='Failed to login, please check your email or password')
    ^^^^^^^^^^

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/template.py", line 151, in render_template
    return _render(app, template, context)
    ^^^^^^^^^^

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/template.py", line 132, in _render
    rv = template.render(context)
    ^^^^^^^^^^

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/jinja2/environment.py", line 1295, in render
```

7: 2025/7/12 - 2025/7/14

Add Flask Migrate

Add Flask-Login / Flask-login-required

Learning Material:

The Flask Development Web

I downloaded and added Flask-Migrate to my entire Flask structure. I used the book *Flask Web Development* to install and use Flask-Migrate. I modified my extensions.py file to add this command: from flask_migrate import Migrate. I also learned some command-line instructions for Flask-Migrate when I needed to add or modify database files in my models folder. During this process, I couldn't initialize my database, and I didn't understand why I was unable to migrate my user model using Flask-Migrate. I eventually resolved the issue by reinstalling and reinitializing Flask-Migrate from scratch.

Because I finished the file related to the profile, which is an important functional area of my website, I installed Flask-Login and initialized it. Then, I added UserMixin to my user model in the models file. After that, I changed my login logic and used Flask-Login to replace the session method. Finally, I imported and configured LoginManager in my `extensions.py` file using `from flask_login import LoginManager`.

During this process, I encountered many problems related to how `login_required` conditions are checked in the code, and I was also confused about how to redirect to `profile.html` from `dashboard.html`. I searched online and used ChatGPT to help solve these issues. Although I used an AI tool, I now understand how to solve these problems and have a clear understanding of the basic logic behind Flask-Migrate and Flask-Login.

```
Last login: Fri Jul 11 10:29:07 on ttys007
[yixinzhoumac: ~ % cd Desktop/M01
[yixinzhoumac M01 % venv/bin/activate
(venv) yixinzhoumac M01 % source venv/bin/activate
[venv] yixinzhoumac M01 % pip install Flask-Migrate
Collecting Flask-Migrate==4.1.0->any.whl.metadata (3.3 kB)
  Requirement already satisfied: Flask>=0.9 in ./venv/lib/python3.11/site-packages (from Flask-Migrate) (2.3.3)
  Requirement already satisfied: Werkzeug<2.3.7 in ./venv/lib/python3.11/site-packages (from Flask-Migrate) (2.3.3)
  Requirement already satisfied: Click<8.0.1 in ./venv/lib/python3.11/site-packages (from Flask-Migrate) (8.0.1)
  Requirement already satisfied: alembic<1.16.4->any.whl.metadata (1.8 kB)
  Requirement already satisfied: typing_extensions<3.12 in ./venv/lib/python3.11/site-packages (from alembic<1.9.8->Flask-Migrate) (4.14.0)
  Requirement already satisfied: Werkzeug>=2.3.7 in ./venv/lib/python3.11/site-packages (from Flask-Migrate) (2.3.7)
  Requirement already satisfied: MarkupSafe<2.1.1 in ./venv/lib/python3.11/site-packages (from Flask-Migrate) (2.1.1)
  Requirement already satisfied: itsdangerous<2.1.2 in ./venv/lib/python3.11/site-packages (from Flask-Migrate) (2.2.0)
  Requirement already satisfied: Click>=8.1.5 in ./venv/lib/python3.11/site-packages (from Flask-Migrate) (8.2.1)
  Requirement already satisfied: Jinja2<3.1.2,>=3.1.2 in ./venv/lib/python3.11/site-packages (from Jinja2>=3.1.2->Flask-Migrate) (3.0.2)
  Requirement already satisfied: MarkupSafe>=2.0 in ./venv/lib/python3.11/site-packages (from Jinja2>=3.1.2->Flask-Migrate) (2.1.2)
  Requirement already satisfied: alembic<1.16.4->any.whl (247 kB)
  Downloading flask-migrate-4.1.0->any.whl (78 kB) 78.5/78.5 kB 2.4 MB/s eta 0:00:00
  Downloading mako-1.3.10->any.whl (78 kB) 78.5/78.5 kB 18.5 MB/s eta 0:00:00
  Installing collected packages: Mako, alembic, Flask-Migrate
  Successfully installed Flask-Migrate==4.1.0 Mako==1.3.10 alembic==1.16.4
[notice] A new release of pip is available: 24.0 -> 26.1.1
[notice] To update, run: pip install --upgrade pip
[venv] yixinzhoumac M01 % pip show flask_sqlalchemy
Name: flask_sqlalchemy
Version: 3.1.1
Summary: Add SQLAlchemy support to your Flask application.
Home-page: https://github.com/mitsuhiko/flask-sqlalchemy
Author: Author unknown
Author-email: Author unknown
License: MIT
Location: /Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages
Requires: flask, sqlalchemy
Required-by: Flask-Migrate
[venv] yixinzhoumac M01 % pip show flask_migrate
Name: flask_migrate
Version: 4.1.0
Summary: Add SQLAlchmey database migrations for Flask applications using Alembic.
Home-page: https://github.com/mitsuhiko/flask-migrate
Author: Author unknown
Author-email: Miguel Grinberg <miguel.grinberg@gmail.com>
License: MIT
Location: /Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages
Requires: flask, flask_sqlalchemy
Required-by: Flask-Migrate
[venv] yixinzhoumac M01 % flask db init
Usage: flask [OPTIONS] COMMAND [PARAMS]...
Try 'flask --help' for help.

Error: No such command 'db'.
[venv] yixinzhoumac M01 % flask db init
  Creating directory /Users/yixinzhou/Desktop/M01/migrations/versions ... done
  Creating /Users/yixinzhou/Desktop/M01/migrations/versions/script.py.migration... done
  Generating /Users/yixinzhou/Desktop/M01/migrations/versions/script.py.migration ... done
  Generating /Users/yixinzhou/Desktop/M01/migrations/versions/README ... done
  Generating /Users/yixinzhou/Desktop/M01/migrations/versions/alembic.ini ... done
  Please edit configuration/connection/logging settings before proceeding.
[venv] yixinzhoumac M01 % flask db upgrade
INFO [alembic.runtime.migration] Context impl SQLiteImpl.
INFO [alembic.runtime.migration] Will assume non-transactional DDL.
INFO [alembic.runtime.migration] No schema upgrade detected.
[venv] yixinzhoumac M01 % flask db upgrade
INFO [alembic.runtime.migration] Context impl SQLiteImpl.
INFO [alembic.runtime.migration] Will assume non-transactional DDL.
[venv] yixinzhoumac M01 % flask db migrate -m "Detect User model"
```

jinja2.exceptions.UndefinedError: 'form' is undefined

Traceback (most recent call last)

```
File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 2213, in __call__
    return self.wsgi_app(environ, start_response)
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 2193, in wsgi_app
    response = self.handle_exception(e)
               ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 2190, in wsgi_app
    response = self.full_dispatch_request()
               ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 1486, in full_dispatch_request
    rv = self.handle_user_exception(e)
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 1484, in full_dispatch_request
    rv = self.dispatch_request()
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 1469, in dispatch_request
    return self.ensure_sync(self.view_functions[rule.endpoint])(**view_args)
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/logic/auth.py", line 63, in login
    return render_template('login.html', error='Failed to login, please check your email or password')
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/template.py", line 151, in render_template
    return _render(app, template, context)
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/template.py", line 132, in _render
    rv = template.render(context)
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/jinja2/environment.py", line 1295, in render
```

UndefinedError

jinja2.exceptions.UndefinedError: 'profile_profile' is undefined

Traceback (most recent call last)

AttributeError

AttributeError: 'Flask' object has no attribute 'login_manager'

```
Traceback (most recent call last):

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 2213, in __call__
    return self.wsgi_app(environ, start_response)
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 2193, in wsgi_app
    response = self.handle_exception(e)
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 2190, in wsgi_app
    response = self.full_dispatch_request()
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 1486, in full_dispatch_request
    rv = self.handle_user_exception(e)
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 1484, in full_dispatch_request
    rv = self.dispatch_request()
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask/app.py", line 1469, in dispatch_request
    return self.ensure_sync(self.view_functions[rule.endpoint])(**view_args)
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/flask_login/utils.py", line 284, in decorated_view
    if not current_user.is_authenticated:
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/werkzeug/local.py", line 311, in __get__
    obj = instance._get_current_object()
           ~~~~~

File "/Users/yixinzhou/Desktop/M01/venv/lib/python3.11/site-packages/werkzeug/local.py", line 515, in _get_current_object
    return get_name(local())
           ~~~~~
```

8: 2025/7/15

Personal Information

First Name Last Name Email Gender Male

Phone Links

```
{    ✓ Widely available across major browsers (Baseline since 2015)  
MDN Reference  
<link rel='stylesheet' href='{{ url_for('static', filename='css/M02_user.css')}}'>  
<div class='profile-container'>
```