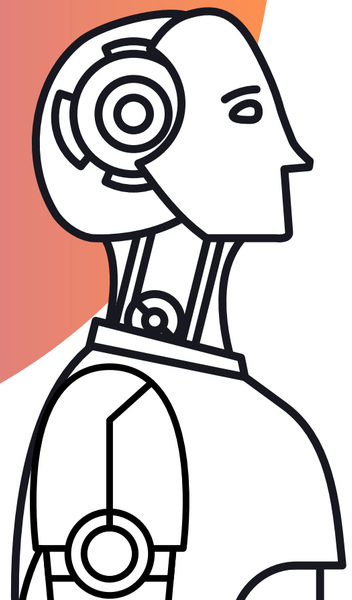
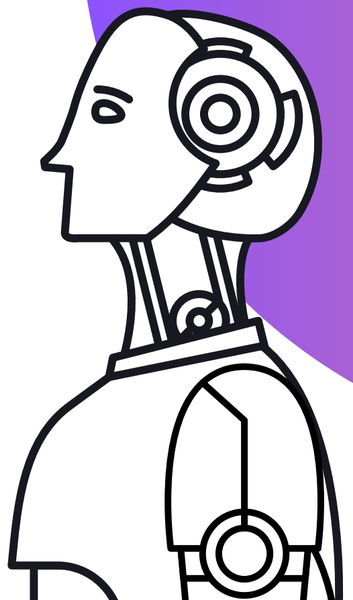
AROWWAI INDUSTRIES

AI FOR SE

GROUP AI_60





MEMBER

LAN NHI

BAO QUYEN

AN THIEN

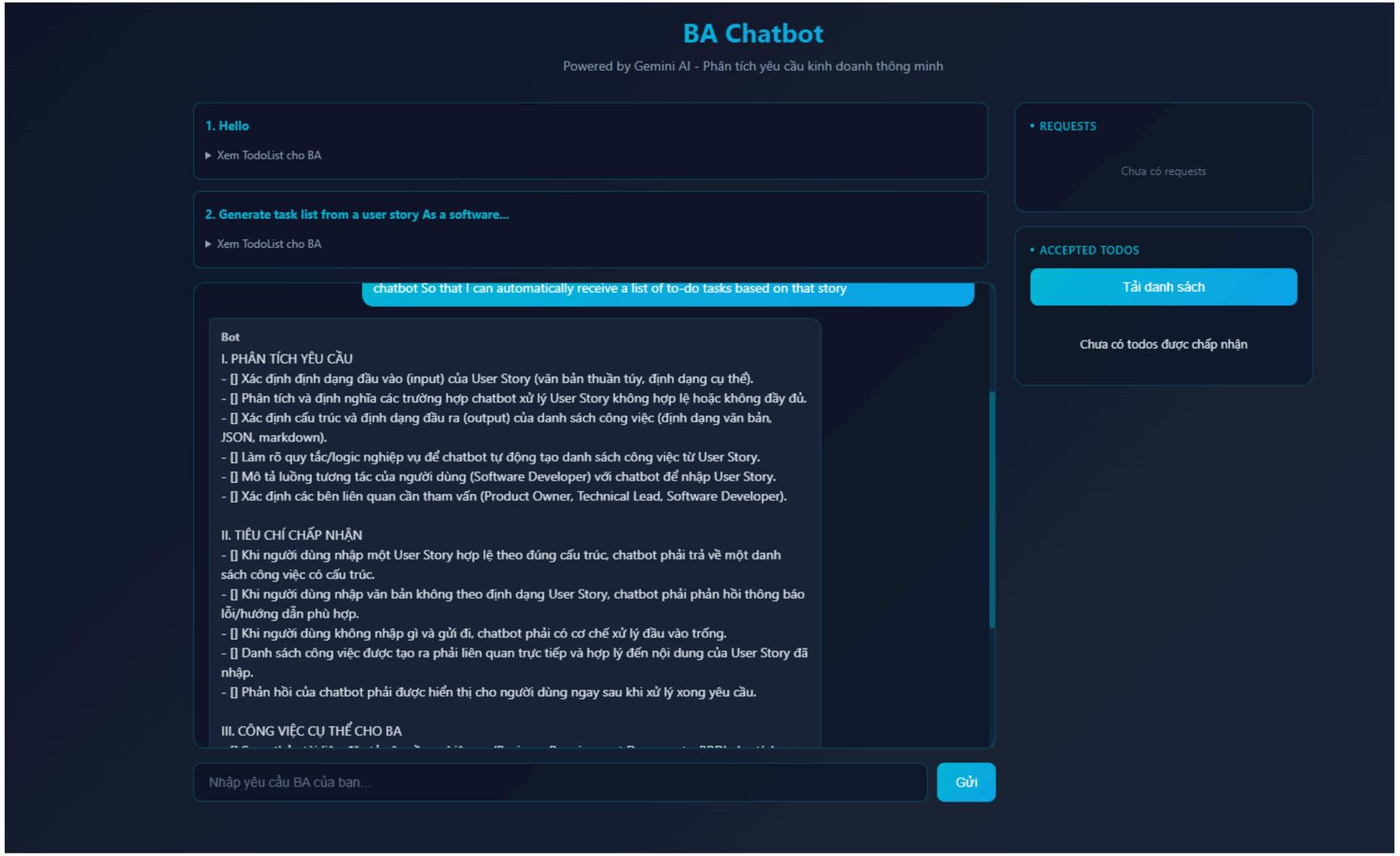
TRUNG DUNG

CONG SON

CHATBOT CREATE TO-DO LIST BASED ON USER STORY

Automatically convert user stories into a list of specific tasks.

- Problem: Manually breaking down user stories into tasks is time-consuming and prone to human error.
- Solution: Develop a chatbot that uses NLP to understand user stories and generate accurate task lists automatically.



Prompt:
Tiêu đề: Tạo danh sách công việc từ một user story

Là một lập trình viên,
Tôi muốn nhập một user story vào chatbot
Để có thể tự động nhận được danh sách các công việc cần làm dựa trên user story đó.

TESTING RESULT

```
-------------------|---------|----------|---------|---------|-------------------
File               | % Stmts | % Branch | % Funcs | % Lines | Uncovered Line #s
-------------------|---------|----------|---------|---------|-------------------
All files          |   98.92 |    90.69 |     100 |   98.92 |
00 |     100 |     100 |
  chat.js          |     100 |      100 |     100 |     100 |
 utils             |     100 |       90 |     100 |     100 |
  parseTodoList.js |     100 |       90 |     100 |     100 | 17,66,72
00 |     100 |     100 |
  chat.js          |     100 |      100 |     100 |     100 |
 utils             |     100 |       90 |     100 |     100 |
  parseTodoList.js |     100 |       90 |     100 |     100 | 17,66,72
-------------------|---------|----------|---------|---------|-------------------
00 |     100 |     100 |
  chat.js          |     100 |      100 |     100 |     100 |
 utils             |     100 |       90 |     100 |     100 |
  parseTodoList.js |     100 |       90 |     100 |     100 | 17,66,72
00 |     100 |     100 |
  chat.js          |     100 |      100 |     100 |     100 |
 utils             |     100 |       90 |     100 |     100 |
  parseTodoList.js |     100 |       90 |     100 |     100 | 17,66,72
-------------------|---------|----------|---------|---------|-------------------
 utils             |     100 |       90 |     100 |     100 |
  parseTodoList.js |     100 |       90 |     100 |     100 | 17,66,72
 utils             |     100 |       90 |     100 |     100 |
 utils             |     100 |       90 |     100 |     100 |
  parseTodoList.js |     100 |       90 |     100 |     100 | 17,66,72
-------------------|---------|----------|---------|---------|-------------------
 utils             |     100 |       90 |     100 |     100 |
  parseTodoList.js |     100 |       90 |     100 |     100 | 17,66,72
 utils             |     100 |       90 |     100 |     100 |
  parseTodoList.js |     100 |       90 |     100 |     100 | 17,66,72
-------------------|---------|----------|---------|---------|-------------------
Test Suites: 5 passed, 5 total
Tests:       37 passed, 37 total
Snapshots:   0 total
Time:        43.49 s, estimated 92 s
```

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TEST CHAT CONTROLLER

```
PASS tests/unit/chatController.test.js (70.506 s)
  Chat Controller - Environment Variables Tests
    Environment Variables
      √ should have GOOGLE_API_KEY loaded from .env (38 ms)
      √ should have MONGO_URI loaded from .env (14 ms)
      √ should have NODE_ENV set to test (10 ms)
    handleChat
      √ should return 400 when message is missing (12 ms)
      √ should handle error when API call fails (9446 ms)
    chatBA
      √ should return 400 when message is missing (12844 ms)
      √ should process valid user story (21011 ms)
    acceptTodo
      √ should return 400 when required fields are missing (33 ms)
      √ should save todo when valid data is provided (27 ms)
      √ should handle save errors (145 ms)
    getAcceptedTodos
      √ should return list of accepted todos (2 ms)
      √ should handle errors when fetching todos (2 ms)
    parseTodoList function
      √ should parse todo list with I./II./III. format (24509 ms)
  Google AI Integration
    √ should initialize Google AI with API key from .env (21 ms)
    √ should create model instance (19 ms)
```

TEST CHAT ROUTES

```
PASS tests/integration/chat.routes.test.js
  Chat Routes Integration Tests
    POST /api/chat
      √ should return todo list response (145 ms)
      √ should handle missing message (22 ms)
    POST /api/accept
      √ should accept and save todo list (13 ms)
    GET /api/todos
      √ should retrieve accepted todos (15 ms)
```

TEST PARSE TODO LIST

```
PASS tests/unit/parseTodoList.test.js
  parseTodoList
    with structured Roman numeral format
      ✓ should parse todo list with I./II./III. sections correctly (3 ms)
      ✓ should handle tasks with different bullet formats (2 ms)
    with Vietnamese header format
      ✓ should parse todo list with Vietnamese headers (3 ms)
    edge cases
      ✓ should return empty sections for empty input
      ✓ should return empty sections for null input
      ✓ should handle input without clear structure (2 ms)
      ✓ should return empty task arrays when no headers or bullets found (1 ms)
```