

Webex Automated Incident Creation System (WAICS)

FINAL PROJECT



Presented By
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The Problem

IT teams receive incident messages across collaboration tools. Clients create manual tickets for IT assistance.

- Slow response time
- Error prone
- Poor communication
- Hinders Service Growth

Our Solution

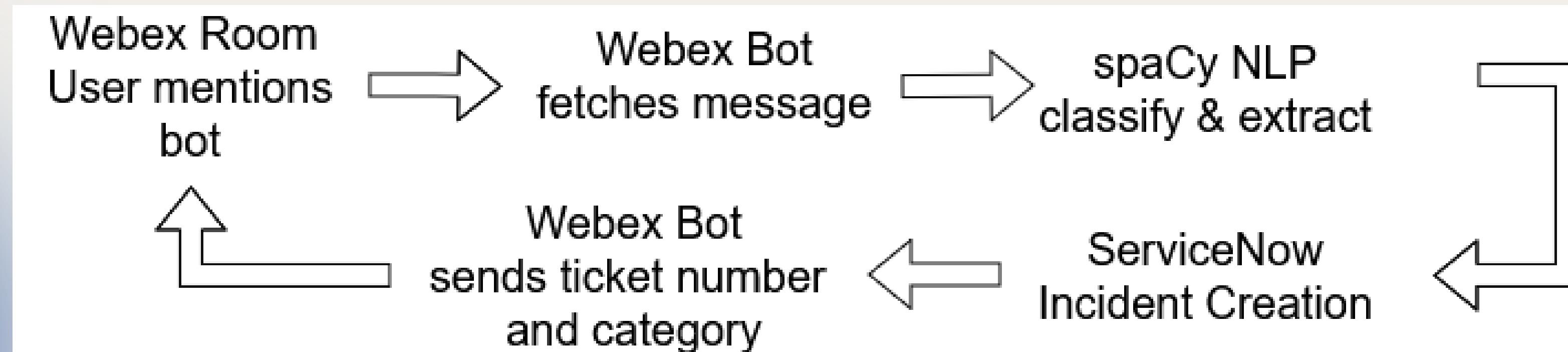
**Automating a ticket system
with WebEx and ServiceNow
while utilizing spaCY (natural
language processing) python
library to classify IT issues.**

- Automatic sorting and prioritization
- Quick response time
- Boosts productivity

Technology Stack

- **WebEx API (Collaboration)**
- **Python (Automation)**
- **spaCy (Natural Language Processor)**
- **ServiceNow (IT Service Management)**
- **Docker (Containerization)**
- **GitHub Actions (CI)**

Architecture



Deployment & Setup

1. Install Python 3.10+
2. Create a WebEx account, install WebEx, and create a bot
3. Create a ServiceNow account and create an instance
4. Install dependencies from requirements.txt
5. Download spaCy model: `python -m spacy download en_core_wed_sm`

Deployment & Setup continued...

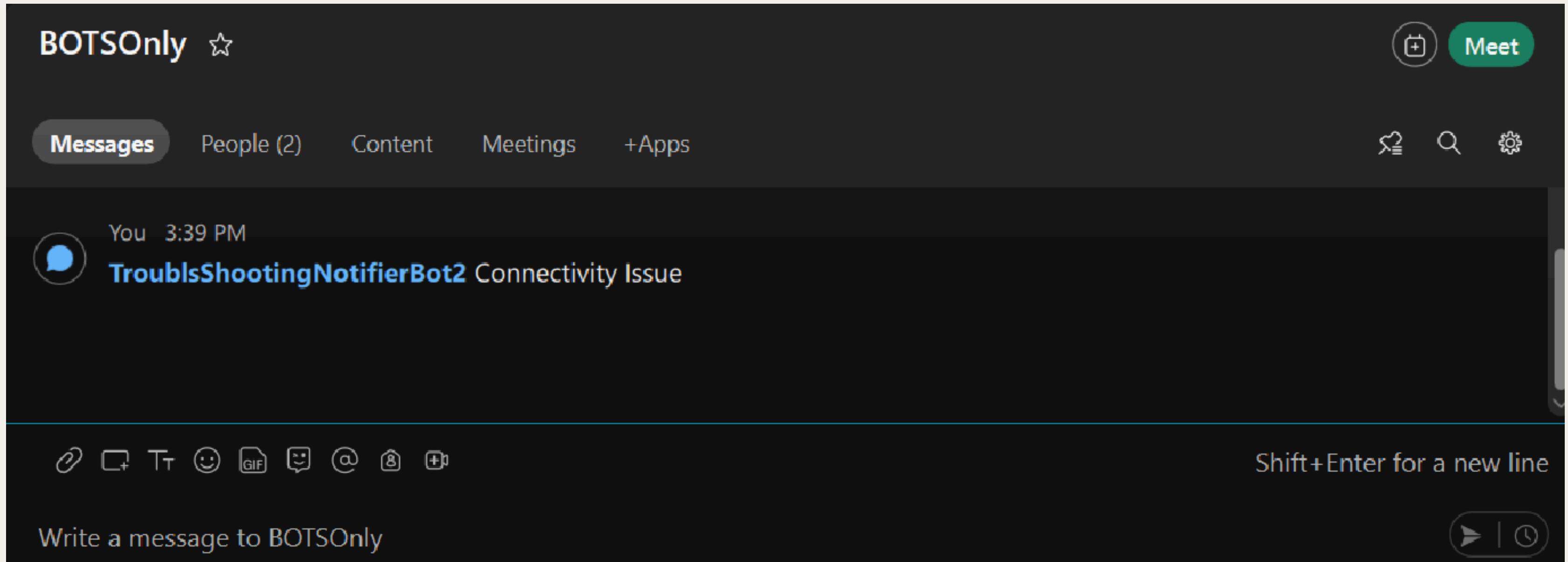
- 6. Set environment variables (WEBEX_TOKEN, ROOM_ID, SERVICENOW_INSTANCE, SERVICENOW_USER, SERVICENOW_PASSWORD)**
 - a. Obtain WebEx bot access token from WebEx developer account**
 - b. Obtain room id by Ctrl+Shift+K (Windows) or Option+Command+K (MAC)**
- 7. Run python bot_code.py or build and run the Docker image**

Demo

- 1. User mentions webex bot and lists their issue in the IT Help Desk Webex room**
- 2. Bot is triggered and fetches the issue**
- 3. Bot classifies and extracts entities via spaCY**
- 4. A ServiceNow incident is created with description of issue**
- 5. Bot replies with ticket number**

Screenshots

1. User mentions webex bot and lists their issue in the IT Help Desk Webex room



Screenshots

2. Bot is triggered and fetches the issue message

3. Bot classifies and extracts entities via spaCY

```
shiva@LAPTOP-9RP6QDS8 MINGW64 ~/2025 Projects/GBA6270_Final_Project/devops_full_package
$ python bot_code.py
2025-11-29 15:51:44,716 [INFO] Starting bot...
2025-11-29 15:51:45,101 [INFO] Bot id: Y2lzY29zcGFyazovL3VzL1BFT1BMRS8wNjc5NDliOC1jZjgzLTQXY2YtOGMyYS02OGU0N2JhotViYjE
2025-11-29 15:51:45,571 [INFO] New human message: TroublsShootingNotifierBot2 Connectivity Issue
2025-11-29 15:51:48,351 [INFO] Created ticket INC0010040 for message Y2lzY29zcGFyazovL3WybjpURUFN0nVzLXd1c3QtM19yL01FU1NBR0UvOTRmNzAxZTAtY2Q3Yy0xMWYwLTkwNWYtzjk4MDg
zNjgw
2025-11-29 15:52:05,334 [INFO] shutting down gracefully
^C
```

```
C:\Users\shiva\2025 Projects\GBA6270_Final_Project\devops_full_package>docker run -d ^ -e SERVICENOW_INSTANCE=%SERVICENOW_INSTANCE% ^ -e SERVIC
ENOW_USER=%SERVICENOW_USER% ^ -e SERVICENOW_PASSWORD=%SERVICENOW_PASSWORD% ^ -e WEBEX_TOKEN=%WEBEX_TOKEN% ^ -e ROOM_ID=%ROOM_ID% ^ webex-sn-bot
:latest
92d41744bfd635c8e274bbb334ea8072c6fbfacabb79d770a41f6701ebeb18e
```

Screenshots

4. A ServiceNow incident is created with description of issue

The screenshot shows a ServiceNow incident creation page for an incident numbered INC0010040. The page includes fields for Number, Caller, Watch list, Opened, Closed, Urgency, State, Short description, and Description. The Description field contains a message about TroubleshootingNotifierBot2 connectivity. The page also features sections for Comments (Customer visible) and Activities.

Incident - INC0010040

Number: INC0010040

Caller: [Search]

Watch list: [Lock] [Edit]

Opened: 2025-11-29 15:51:46

Closed: [Search]

Urgency: 3 - Low

State: New

Short description: [General] TroubleshootingNotifierBot2 Connectivity Issue

Description: Message: TroubleshootingNotifierBot2 Connectivity Issue\nDetected entities: []

Comments (Customer visible): [Comments]

Activities: 1

System Administrator

Impact: 2 - Medium
Incident state: New
Opened by: System Administrator
Priority: 4 - Low

Field changes • 2025-11-29 15:51:46

Screenshots

5. Bot replies with ticket number

The screenshot shows a Microsoft Teams message thread between a user and a bot named 'TroubleshootingNotifierBot2'. The user sends a message about connectivity issues, and the bot replies with a ticket creation message containing the number INC0010040.

BOTSOnly ☆

Messages People (2) Content Meetings +Apps

You 3:39 PM

TroubleshootingNotifierBot2 Connectivity Issue

TroubleshootingNotifierBot2 3:51 PM

Ticket created: INC0010040 (category: General)

Seen by

Shift+Enter for a new line

Write a message to BOTSOnly

Future Work

- Recommend suggests on how to fix common IT issues e.g. reset password
- Implement a webhook to trigger creating a ServiceNow incident.
- Automate system testing

**Thank
You**

