IBM Hack Challenge 2020

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- **Team Member : 1**

Project based on (AI Recruiter)

"Shortlist a Suitable candidate for specific Job Role"

Project Explanation :-

➤ I am using IBM Watson Assistant service for recruiter chat bot.

➤ In that, i created skill which will do my task as an AI recruiter.

➤ <u>Process for shortlists the candidate :</u>

➤ **Shortlist procedure by industry (let say):**

- Candidates have to choose interested domain.
- After selecting their respective domain skills they are asked for any industrial experience.(Minimum <u>two</u> <u>years</u> are required) **or**
- If the candidate's highest education level is <u>Master</u> or <u>Postgraduate.</u>

⭐Assistant will first ask about the domain in which the candidate wants to apply for. Here I have taken following three examples:

1. Data Scientist
2. Full Stack Developer

3. Software Developer

⭐In each domain I have taken related skills asked by the assistant. Let say, in domain Data Scientist i have given skills like:-

1. R Programming
2. Hadoop Platform
3. Data Visualization

⭐After choosing respective skills by the candidate, assistant will now ask about any industrial experience. If he/she has experience of about two years then it is fine. Otherwise assistant will ask about the highest education level you have completed of the candidate. Here I had taken the following parameters:

1. M.Tech (Master of Engineering
2. PhD (postgraduate)
3. Second University Degree (Master's)

⭐**He/she will be eligible for the job if they have completed any of the following Degree or having two or more years experience in industries.**

⭐**"The shortlisted candidate will have to fill the detail form along with <u>linked-in profile</u> which will be directly uploaded to the IBM cloud database and helps the recruiters to select the right candidate."**

⭐**"Apart from this, shortlisted candidate (personality traits) will also be measured with the help of IBM Watson Personality Insights and will be stored along with form in the cloud which will be beneficial for the company."**

1. INTRODUCTION

1.1 Overview:

Software Bot enabled with artificial intelligence, which screens the candidate application, shortlists for interviews and identifies his skills and personality traits through conversation.

1.2 Purpose:

To make the system which will communicate well with all their candidates shortlists for interview and identify his skills & personality traits through conversation, making job easier for HR.

2. LITERATURE SURVEY

2.1 Exiting problem:

52% of talent acquisition leaders say that the most difficult part of their job is to shortlist the right candidate and 3% of candidates never hear back from a company after one touch point. On the flip side, it is a challenge for employers to communicate well with all their candidates.
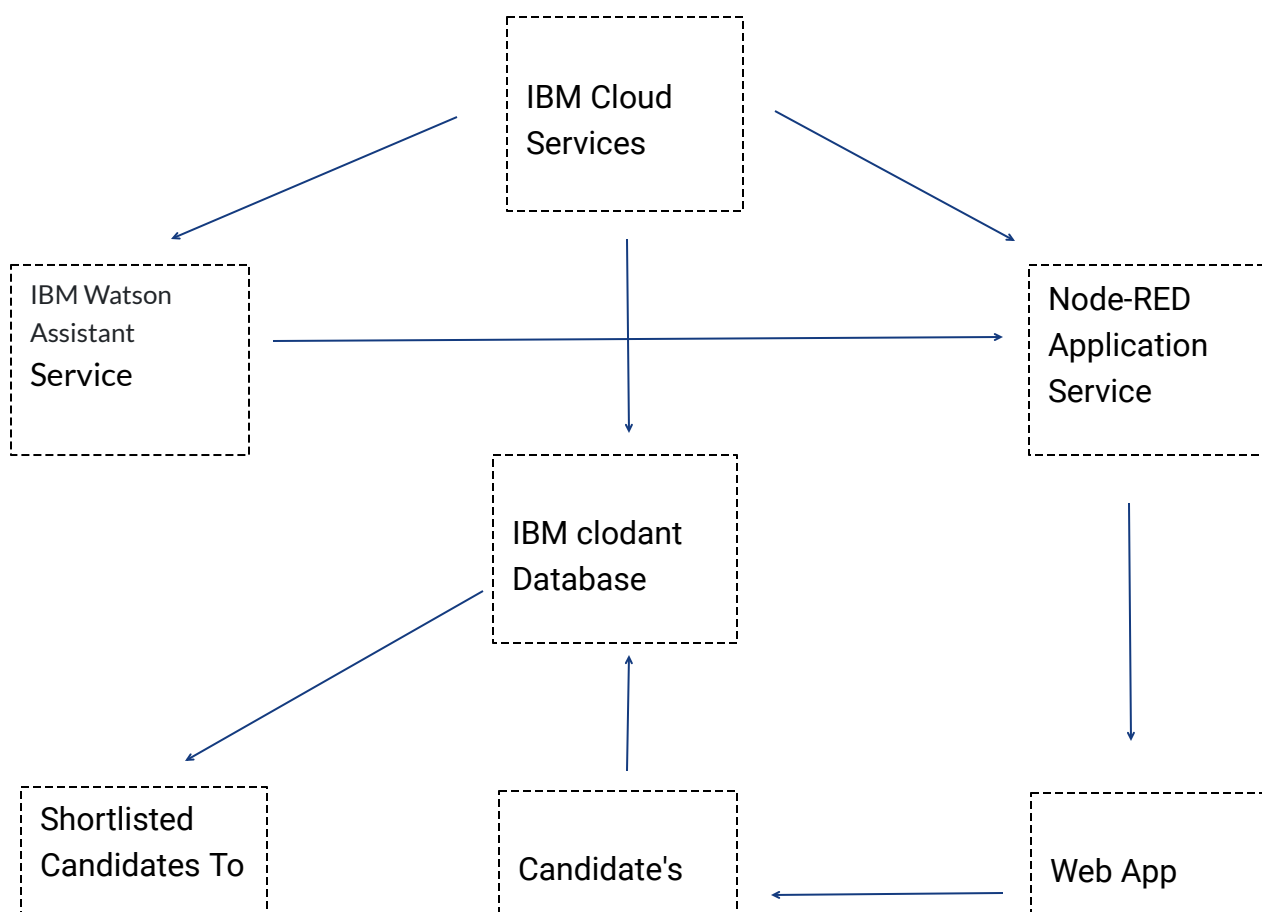
For high volume recruiting, this would require communicating with thousands of candidates, additionally a recruiter's normal screening functions and other duties.

2.2 **Proposed Solution:**

With the help of IBM Watson Assistant, now it is easier to communicate between the candidate and chat-bot assistant is capable of doing recruiter jobs by shortlisting the desired candidate among them along with giving their personality information.
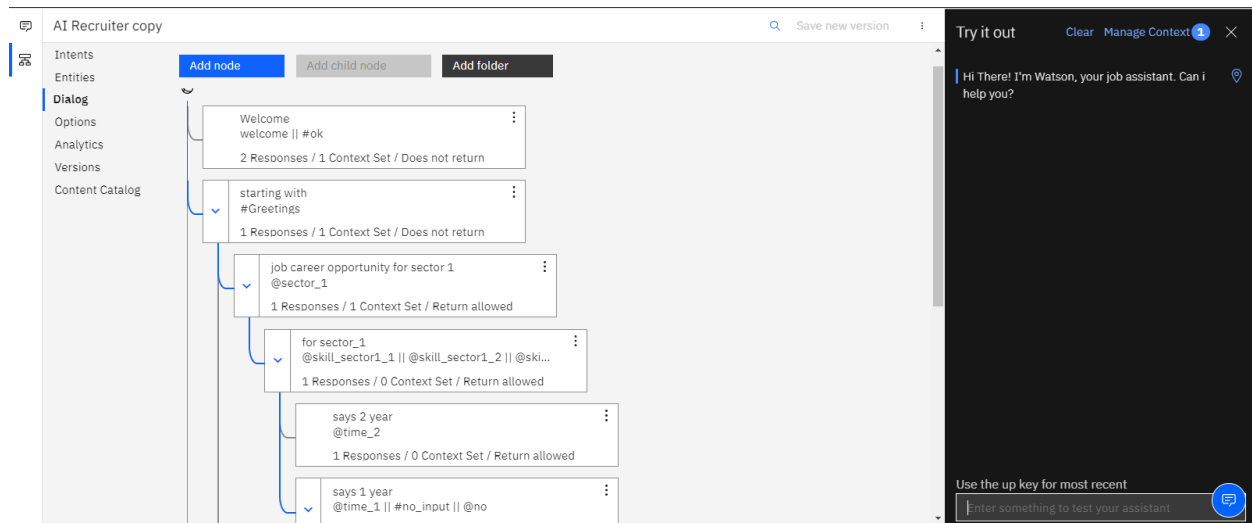
3. **THEORITICAL ANALYSIS**

3.1 **Block Diagram**

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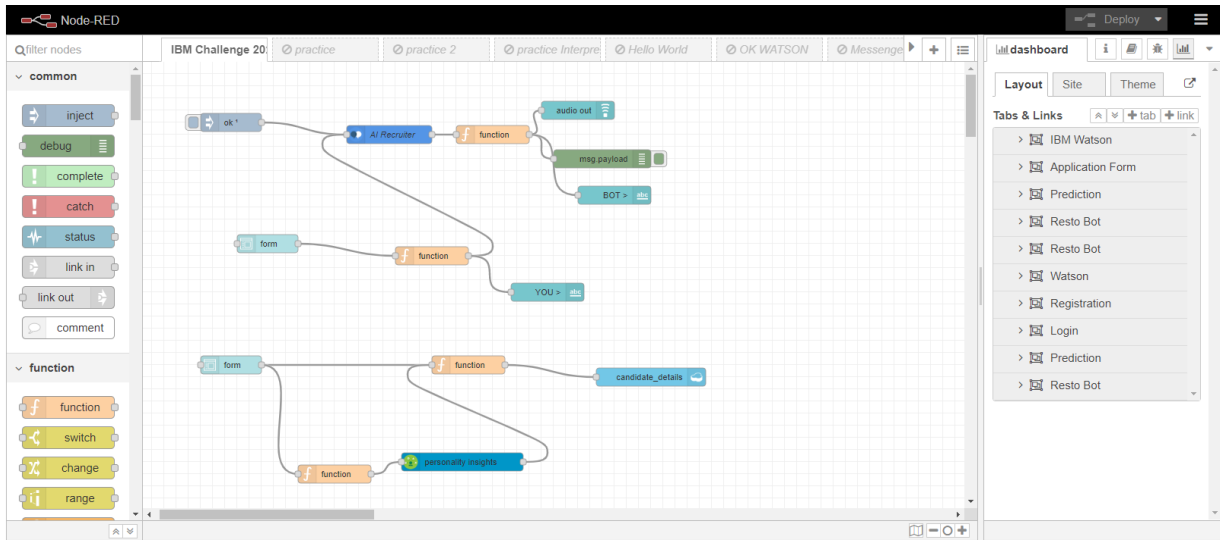
3.2 Hardware / Software designing:

➤ IBM Watson Assistant (AI Recruiter):

➤ Node-Red application:

➤ Node_Red Dashboard UI (Web App):

Candidate Details

Name of candidate *

Email address *

Contact no. *

Linkedin ProfileURL *

What do you think about upcoming challenges and opportunities in industries? (min 100 words) *

| SUBMIT | CANCEL |

4. **EXPERIMENTAL INVESTIGATIONS:**

● Context Variables and System Entities:
https://www.ibm.com/cloud/blog/enhance-chatbot-conversation-context-variables-system-entities

● Integration Of Watson Assistant To Node-Red:
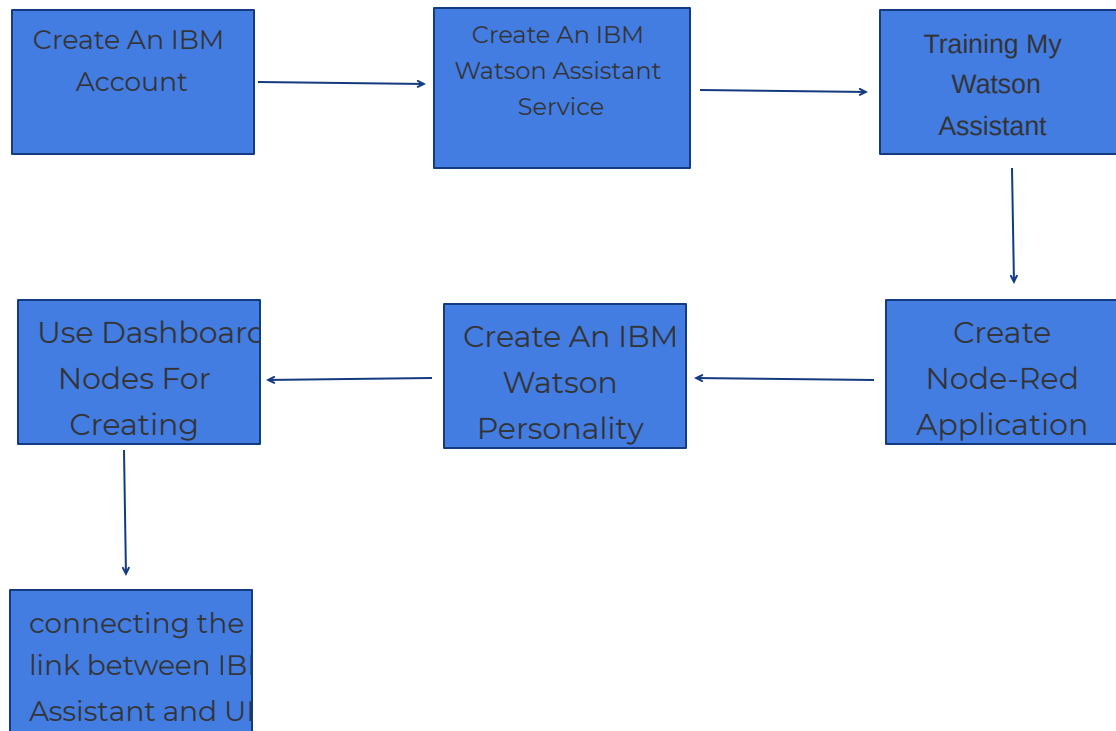http://www.iotgyan.com/learning-resource/integration-of-watson-assistant-to-node-red

● IBM Watson for Beginners Personality Insights:

https://www.youtube.com/watch?v=zRP_DAVWv4U&list=LLiJeCzWulf34vnWQgTwFriw&index=22&t=0s

● Node-Red Form:

https://discourse.nodered.org/

5. FLOWCHART

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6. RESULT

Using IBM Watson Assistant, IBM Watson Personality Insights, IBM Cloud for Deployment, Node-RED (Web app frameworks), we have successfully built Software Bot enabled with Artificial Intelligence, which screens the candidate application, shortlists for interviews and identifies his skills and personality traits through conversation.

7. ADVANTAGES AND DISADVANTAGES

➤ **Advantages:**

1. Improved Quality of Candidates
2. Automate Tedious Manual Tasks
3. No more 'talent waste'
4. An optimized Recruitment Process
5. Cost Effective Hiring

➤ **Disadvantages:**
1. A chat bot cannot answer complex questions, and users may become frustrated with it.
2. Even good AI-based screening systems have difficulty evaluating soft skills, which are crucial to many jobs. (It's not impossible, but it's harder to assess.) It is not simple for AI to assess cultural fit for the organization either.

8. APPLICATIONS

➤ In recent years, artificial intelligence software solutions have seen more and more adoption in many different areas. Businesses save hundreds of millions of dollars annually by deploying machine learning into all sorts of tasks.
➤ AI recruiting is a subset of recruiting automation and aims at the same thing — streamlining your recruiting efforts. However, as traditional automation has limitations in terms of understanding natural language, analysis large amounts of complex, unstructured data and finding patterns on it, that is where AI excels.

➤ Experts in the field anticipate AI to change the very foundation of recruitment and HR. As a recruiter, business leader, or HR manager, keeping up with this trend is vital to stay competitive in an ever-increasing arms race for talent.

9. CONCLUSION

Using AI in the right way throughout your hiring process brings big benefits over the entire breadth. Bad hires cost companies hundreds of millions of dollars each year, and improving the end results can support long term success for you and your company.

All companies could benefit from using an appropriate AI-setup but there are some applications where it makes even more sense.

10. FUTURE SCOPE

Recruiting has always been, at its core, a rather human process. However, with tools that are quickly taking over major chunks of the average recruiter's job, is redundancy on the cards for human head-hunters? Perhaps the answer lies right there – the "average" recruiter may be at risk of losing their job. With technology taking quantum leaps, we cannot remain comfortably average – our skills needed to take quantum leaps as well.

While it is easy to say that the future is collaborative and that once upgraded, both the human and the AI recruiter can join forces to hire better, it is difficult to cordon off the exact point where the chat bot stops and where the human begins. Where do we really need the human recruiter to intervene? Relationship-building, negotiation skills, and empathy were (and still are) key human traits which recruiting chatbots can now mimic almost seamlessly. Bots have already proven their worth when it comes to sourcing, screening and tracking candidates, scheduling interviews and following up with superhuman efficiency.

11. BIBILOGRAPHY

- IBM Platform
- IBM Watson Assistant
- IBM Watson Personality Insights
- IBM Cloud for Deployment
- Node-RED (Web app frameworks)

Appendix: Source code is mentioned in Git hub repository.

THE END