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[ijirset@gmail.com](mailto:ijirset@gmail.com)

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# AI Based SP<sup>3</sup> Recruitment Robot

Prajakta Pandurang Bhadale<sup>1</sup>, Pranali Babu Hivarkar<sup>2</sup>, Shreyas Sunil Mane<sup>3</sup>, Piyusha Maruti Bhav<sup>4</sup>

Department of Computer Engineering, NESGOI, Pune, India<sup>1,2,3,4</sup>

**ABSTRACT:** The well-executed recruitment and retention of employees in organizations in a highly competitive global market has grown significantly in the last decade. The need for managers to be emotionally intelligent for better management and productivity to deal with employees from generation Y and Z is also in great demand. Research prototypes of humanoid robots have been around for a long time. For example, Asimo a humanoid robot created by Honda in 2000, gained a high degree of awareness, but there are only few examples of commercially available humanoid robots. Our project describes several use cases for a humanoid robot in an innovation artificial based environment. We designed and implement AI based SP<sup>3</sup> Recruitment Robot, a commercially recruitment robot. SP<sup>3</sup> is used as digital consultant in the interview process for all company. The different functionalities range from being a concierge for new guests to being a tutor for AI or do answering questions in open and project-specific domains. Besides the built-in speech and visual recognition system provided by the robot our own developed AI technologies are integrated in it. In order to become a social robot we began to give SP<sup>3</sup> access to social collaboration tools.

**KEYWORDS:** SP<sup>3</sup> Robot, Recruitment System, Python, Speech Conversion, Text Conversion.

## I. INTRODUCTION

This paper's aim is to present the varied viewpoints of different scholars and authors with respect to the SP<sup>3</sup> recruitment process. SP<sup>3</sup> recruitment is not limited to advertising jobs on websites and other social media platforms: rather, it is a complex phenomenon. Thus, analyzing the different views of scholars and authors will be beneficial in gaining a better knowledge and awareness about the scope of SP<sup>3</sup> recruitment process. The process in question is to select the right candidates for the right kinds of position. This paper reviewed the literature by framing two major themes to gain an overview of types of SP<sup>3</sup> recruitment process and the quality of selection.

Using efficient recruitment strategies would help the organization in recruiting employees and workers with high potential and would even help in executing talent management strategies in an enhanced manner. Fundamental changes in recruitment practices have been observed since the 1990s. Recruitment through online procedures has increased enormously due to growth in the global economy, which has raised the demand for talented potential employees and workers in an organization. This research paper discusses the contribution of SP<sup>3</sup> recruitment for a specific job in a company or Any organization on the basis of the varied perceptions of different HR professional.

Internal recruitment or promotion is much easier in comparison to external recruitment, as it requires less time and money. The organization and senior managers are well aware of the skills, knowledge and capabilities of their junior employees; hence, it is more efficient than external recruitment. The promotion of junior employees can encourage and motivate them to perform better. On the other hand, external recruitment is helpful in bringing new talent and ideas into the organization.

External recruitment procedures also provide an opportunity for the organization to select from a large pool of candidates, who possesses a diverse set of skills and knowledge. External recruitment also prevents employees from becoming complacent. However, external recruitment is a time consuming, cumbersome and expensive process for organizations. Thus, internal recruitment or promotion motivates and encourages existing employees to perform better, whereas external recruitment helps in bringing new and talented employees into the organization who can help in improving overall organizational performance.



II. RELATED WORK

Commercial use of humanoid robots:

In contrast to industrial robots there is at the moment no evidence that the use of humanoid robots in business has a measurable return of investment (ROI). The business impact so far falls into the category of marketing and the relation to increased revenue is hard to draw. As references for clear business cases are missing most industrial companies are still reluctant to adopt humanoid robots.[1][6][7]

Wakamaru:-

The robot Wakamaru made by Mitsubishi is a yellow, 3-foot domestic robot that debuted in 2005. Wakamaru had ultrasound and infrared sensors as well as an LED indicator on its chest to show “emotions”. Wakamaru could recognize 10,000 words in Japanese as well as some faces. The robot was sold to households where it could greet family members, tell the weather, and remind to take your medicine and other daily things. Wakamaru came a decade ahead with similar concepts as the models we know today, but it was apparently too early for a market success.[3]

Nao:-

Nao, developed by Aldebaran Robotics, a France-based humanoid robot developer later renamed to SoftBank Robotics, is a 58 cm bipedal robot that was first released 2008. Initially, it was developed for universities and laboratories for research and education purposes, and was made publicly available by 2011. Nao became popular through the RoboCup, an international robot soccer competition.[2][4][5]

III. PROPOSED METHODOLOGY

Recruitment is a process of finding the potential resources for filling up the vacant positions in an organization. It is a process of filtering the candidates based on their abilities and attitude, which is required for achieving the objectives of an organization. Recruitment process is a process of identifying the job vacancies, analysing the job requirements, reviewing applications, screening, shortlisting and selecting the right candidate. Humanoid robots are professional service robots built to mimic human mothin and interaction. Like all service robots, they provide value by automating tasks in a way that leads to cost-savings and productivity. Humanoid robots are a relatively new form of professional service robot.

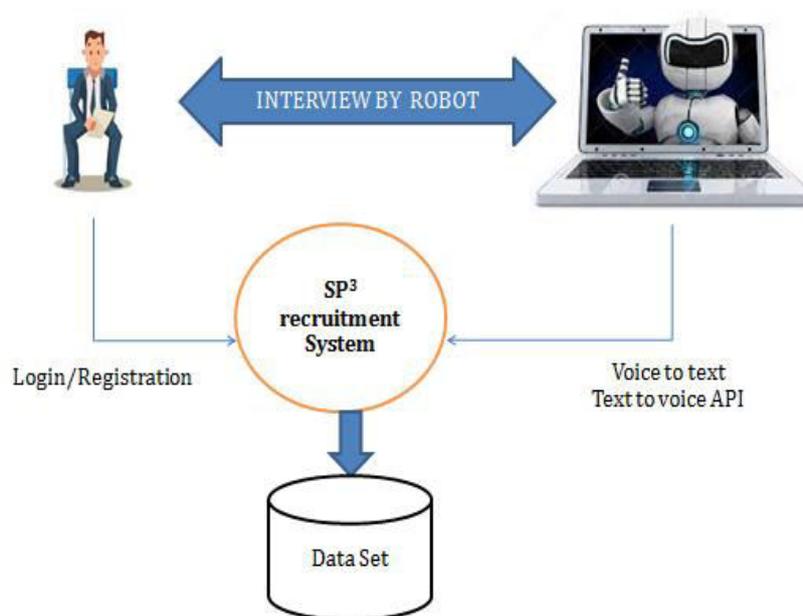


Fig 1. Proposed System Architecture



In our proposed system we design and developed a model for a candidate's interview with an Emotionally Intelligent Robotic System as SP<sup>3</sup>. SP<sup>3</sup> is based on integration of psychology based selling behavior model, artificial intelligence, image processing and soft computing techniques.[6] Most existing approaches to person's hiring rely primarily on the interview process and/or psychometric tests for selling behavior evaluation. Some of the limitations of the interview process include human factor and subjectivity, time constraints, and lack of uniformity. The interview system is used for conducting job interview consisting of three main components: text-to-speech engine, speech recognition and dialogue system. The text-to-speech engine is responsible for vocalizing the text questions to the candidate, while the speech recognition capture the audio responses of the candidate and convert them into text.

The dialogue system is responsible for managing the job interview dialogue with the candidate. Besides the human voice and speech recognition and emotion tracking capacities, the SP<sup>3</sup> robot is interacting (interviewing) the candidate in a very interacting manner with rich human-like characteristics like gestures and emotive facial data. During conducting the interview, video capturing and cognitive responses of the candidate will be input in the emotional profiling and cognitive profiling components for profiling and benchmarking.

#### IV. WORKING MODULE

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#### V. CONCLUSION

It can be summarized from the review of relevant literature that the SP3 recruitment process involves the use of technology for the purpose of attracting and selecting suitable candidates for a job. It has been observed that the SP3 recruitment process involves stages such as searching the job folder, assessing the candidates, short-listing candidates and the final decisions made by the recruiting managers. Further, the process faces certain challenges, such as an increased number of unsuitable job applicants, discrimination and diversity issues, and alignment issues. Although adequate literature sources are available on the benefits and challenges of the E-recruitment process, there is lack of literature on the clear process of SP3 recruitment and correct procedures, which presents scope for further research in this domain. In this work, we have developed an integrated company or governmental organization-oriented SP3 recruitment system that automates the candidate evaluation and pre-screening process.

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