SMART TRAVEL & HOTEL - 2017

Robotics & Artificial Intelligence in Tourism & Hospitality Industry

General

CU-UIHM is organizing a national inter-college competition with the finale on 01 April 2017 for students from hospitality and tourism sector. The competition is open to students of all colleges across India.

Format of Competition

This is a two stage problem statement based competition. In qualifier round, student teams will select any ONE of the two problem statements attached and will have to e-mail a one-page outline of their solution along with their presentations on PPT. Shortlisted teams will be invited to the grand finale to make their detailed presentation before a distinguished jury at Chandigarh University on 01 April 2017. Final awards will be made based on merit.

Qualifier Round

The PPT should not have more than a total of 10 slides. The teams will be shortlisted based on the one page outline and the content and clarity of thought in their PPT.

Grand Finale

The shortlisted teams will have the opportunity to make PPT based presentations of not more than 15 minutes before a jury. The time will include question and answer session if any.

Problem Statement

The problem statements are attached at appendix.

Rules on Team structure

1. Maximum of 4 members in a team.

2. Members of a team may be from multiple colleges.

3. Any number of teams can participate from one college.

4. Professionals are not allowed (Only students can participate).

Assessment Criteria

The solution provided should:

- *The solution to be practical and be executable with a short cycle of implementation. It means any solution requiring long time to implement will be considered weak, and any solution which is more theoretical and not adequately practical will be considered weak.*
- *Elaboration on how the solution will lead to tourist satisfaction and enhanced efficiencies.*
- *The cost implication of the solution, both on capital expenditure and operational expenditure, as well as any implication of addition of manpower.*
- *The impact of the solution on improving the brand image of organisation.*

Time Lines

S. No	Activity	Tentative Date	Remarks
1.	*Grand finale*	*01 April 2017*	
2.	*Results of qualifier round*	*18 March 2017*	
3.	*Last date for Submission of entries*	*05 March 2017*	

Faculty Coordinator: *Rajshree Bhargava , 8146659314, shreeandraj@gmail.com*

   Mr. Ajit Kumar, 9955253557, ajitihmbodhgaya@gmail.com

Student Coordinator: *Kiran Gurang, 9862602970, kirangurang653@gmail.com*

   Sugandha Gurang, 9756347409, sugzmail@gmail.com

Notes to respondents:

Employing robots is not some distant dream but a current reality. The trend of robotics actually discharging human functions and communicating in real time has already made a beginning. Hence, the responses should be contemporary and practical and not fictitious.

A critical analysis of the situation is to be presented in the answer. An ideal analysis will cover aspects of basics of robotics, tourist expectations from human interaction, acceptance of robots in human functions, their efficiency, speed and more importantly, dependability in the long term.

Evaluation will consider the answers, critical analysis and the strength of arguments.

Problem Statement 1

Robotics in tourism and travel industry

Japan has recently introduced robots to interact with travelers at its Haneda airport. Besides giving out information in Japanese and English languages, the robot can actually interact with humans, and guide and escort passengers within the airport. Similarly, Starwood hotels, California has employed a robot to deliver amenities to guests. The working of these robots, though still in preliminary stages in discharging human interactive roles, is bound to take several functions in the hospitality sector.

One such activity not very far away is to deploy 'robotic tour guides', which will take tourists on a conducted tour of say, a museum, giving out commentary along the way, and even answering questions, initially in few languages, but technology is currently available to enable robots to decipher the language and respond in native languages.

In this background, following situation is presented, and you are required to address it:

A robotic tourist guide, pre-programmed to hold brief interactions with a group of tourists and take them on a conducted tour of a world heritage site spanning several hectares, develops a technical snag. As a result, following defects arise:

> Instead of native language, the robot delivers the tour brief only in English, which several of the tourists are unable to understand.
>
> Instead of proceeding on a pre-determined path, the robot makes a slight error in its navigation, as a result of which, the audio brief delivered by the robot at each steps corresponds to the NEXT attraction in the tour, thereby losing track and tourist interest.

In this situation, you are expected to present:

1. How to deal with immediate situation and properly manage the tourists to ensure their lost experience is quickly made up. A step by step solution detailing all measures required in the situation is to be presented.
2. How would you deal with robotics tourist guides hereafter? Given this problem has arisen, would you continue employing robotic guides or remove them from service? Elaborate your answer with justifications.

3. What are the services you feel should be 'robotized' in tourism and travel industry? Is it feasible in the long term to actually replace human interactive functions with robots, especially where human satisfaction is the key result? Give out elaborate justifications.
4. With continuance of this trend, what are the supplementary problems likely to arise? Throw light in your own perspective on issues like loss of human employment, cost of robots versus humans, interactive abilities of robots, especially in multiple languages, and the legal issues involved.

Problem Statement 2

Robotics and Artificial Intelligence (AI) in Hospitality Industry

Robots and AI are taking over the hospitality industry and it is estimated that by 2020 they will become an integral part of most functions. However, the success of robots will be highly influenced by consumer acceptance and will depend on how comfortable are the travellers with robots and whether they believe robots will improve their stay experience. The trend in hospitality industry shows robots are mostly being used at check-in desks, in room service, as hotel porters and even as waiters. The working of these robots, though still in preliminary stages in discharging human interactive roles, is bound to take several functions in the hospitality sector.

In this background, following situation is presented, and you are required to address it:

You are the HR Manager in Hotel 'Ocean View', an upscale hotel based in Goa. It has 100 rooms in 7 floors with four meeting rooms, a coffee shop, and a swimming pool. The hotel is served with a staff of 231 with a 1:15 staff: room ratio. The senior management is concerned with the rising trend in customer complaints and a dipping bottom-line. A consultant hired to resolve issues has identified the high staff: room ratio to be a major cause of concern. He has opined that higher density of staff has resulted in inefficiencies and avoidable costs. He has recommended that the hotel make use of robotics and AI to downsize staff and enhance efficiencies to return to high margin of profits. He has stated that such a measure would involve high capital expense initially but will pay back in multiple margins in long run. The management has accepted the suggestions and has asked you to make a presentation for a pilot project to introduce robotics/AI in the hotel.

In this situation, you are expected to present:

1. The services/areas in which robots and AI can be introduced. Since it is a pilot project, you are required to identify the areas, justify one area and give out granular details of usage in that area.
2. Estimate the reduction in manpower in that area that can be brought in by use of robots. Also mention which human functions cannot be replaced by robots in that area.
3. Give an estimate of reduction in operational expenditure in that area that can be availed by using new measures.
4. With introduction of robots what are the supplementary problems likely to rise?
   Throw light in your own perspective on issues like loss of human employment, cost of robots versus humans, interactive abilities of robots and legal issues involved.