SVECW
SHRI VISHNU ENGINEERING COLLEGE FOR WOMEN

Smart India Hackathon 2024

Internal Hackathon Report

Dt: 05-09-2024

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1. Executive Summary

The Internal Hackathon 2024 organized by Shri Vishnu Engineering College for Women on 5th September 2024 was a landmark event in the college's efforts to foster creativity, innovation, and problem-solving skills among young women in technology. Due to the growing number of participants, the event was split into two phases: the departmental level and the college level. This format ensured a thorough selection process, where 141 teams competed at the departmental level, resulting in 70 teams advancing to the college-level competition. The top 50 teams from the college-level hackathon were shortlisted for participation in Smart India Hackathon (SIH) 2024, with 45 selected directly and 5 placed on a waitlist.

The event was organized at three different venues within the campus, ensuring smooth logistics for the participants and panel members. A diverse panel of experts from industry and academia judged the projects, offering valuable insights and feedback. The problem statements were provided by various government organizations, allowing the participants to work on real-world challenges with significant societal impact.

This year's internal hackathon was a major success, highlighting the technical prowess, creativity, and problem-solving capabilities of the participants. Teams developed solutions in key sectors such as smart cities, healthcare, agriculture, and public safety, underscoring their ability to create practical, scalable solutions. The event not only celebrated the skills of these young women but also empowered them to think critically and innovate for the future.

By facilitating collaboration and offering exposure to expert evaluations, the Internal Hackathon 2024 laid the foundation for these participants to excel at the national level SIH 2024 and beyond.

2. Introduction

The Internal Hackathon 2024 hosted by Shri Vishnu Engineering College for Women aimed to provide a platform for young women to showcase their technical talent, creativity, and innovation. Building on the success of previous Hackathons, the event focused on developing practical solutions to real-world challenges. This year, the Hackathon adopted a new structure

due to the large number of participants. It was split into two phases: a departmental level Hackathon followed by a college-level event.

The first phase, at the departmental level, allowed each department to host its own mini-Hackathon to identify and select the best teams. This enabled more focused attention on the talents within specific departments while ensuring a level of competition that would refine the participants' problem-solving skills. The top teams from each department moved on to the college-level Hackathon.

The primary objective of the Hackathon was to encourage women to engage in technology-driven problem-solving and foster an innovative mindset. Participants were provided with problem statements curated by various government organizations, reflecting challenges faced across sectors such as healthcare, public infrastructure, smart transportation, and agriculture. These real-world problem statements allowed participants to engage in hands-on learning while contributing to the development of solutions that could positively impact society.

The Hackathon also emphasized the importance of teamwork, collaboration, and interdisciplinary approaches to innovation. Participants from diverse technical backgrounds—ranging from software development to hardware engineering—came together to form teams, combining their expertise to solve complex problems. Through this, the Internal Hackathon 2024 not only served as a competition but also as a learning experience, encouraging participants to think beyond conventional boundaries and emerge as innovators.

3. Event Logistics

3.1 Team Formation

Team formation for the Smart India Hackathon 2024 at Shri Vishnu Engineering College for Women was a meticulous and thoughtful process, driven by the aim of creating teams that would not only excel in their respective challenges but also epitomize the power of diversity and collaboration. This process was designed to curate teams with a balanced mix of skills, expertise, and backgrounds, ensuring that each group had the potential for comprehensive problem-solving.

The emphasis on diversity was deliberate, recognizing that innovation often thrives when individuals from varying fields and experiences come together. Therefore, participants were

carefully matched to form teams that represented a kaleidoscope of knowledge, ranging from software development and engineering to design and data analysis. This strategic approach to team formation not only celebrated the unique strengths of each participant but also encouraged them to contribute their distinct perspectives and skills to the collective endeavor.

As a result, teams were created with a blend of technical proficiency, creativity, and interdisciplinary thinking. This blend proved to be invaluable during the hackathon as participants with different backgrounds brought fresh ideas, approaches, and solutions to the table. The rich diversity within the teams stimulated lively discussions, encouraged out-of-the-box thinking, and fostered an atmosphere of cross-pollination of ideas. It reinforced the notion that true innovation often arises from the synergy of diverse talents working towards a common goal.

In essence, the meticulous team formation process was a catalyst for collaboration, synergy, and creative problem-solving. It not only enhanced the hackathon experience for participants but also exemplified the belief that diverse teams, united by a shared passion for innovation, have the potential to drive remarkable change and create solutions that can address the most pressing challenges of our time.

3.2 Departmental Level Hackathons

The departmental level hackathons served as the initial phase of the Internal Hackathon 2024, with each department organizing its own competition. A total of 141 teams participated at this stage, representing different departments such as Computer Science, Information Technology, Artificial Intelligence, Electronics and Communication, Electrical Engineering, Civil Engineering and Mechanical Engineering. The objective of this phase was to identify the best teams from each department that could compete at the college level. Each department was responsible for conducting its own event, which included the registration, problem statement assignment, and evaluation process.

The registration process was efficient, with teams composed of students with diverse skill sets. Problem statements provided at the departmental level were aligned with the skills and knowledge of the participants, focusing on challenges related to the specific fields of study within each department. This ensured that participants could apply their domain knowledge effectively, while also learning new skills in the process.

Out of the 141 teams, 70 teams were selected for the college-level hackathon. The selection process was rigorous, with teams being judged based on their innovation, technical complexity, problem-solving approach, and teamwork. The departmental level hackathons served as an excellent precursor to the college-level event, ensuring that only the most capable and innovative teams moved forward.

By organizing the hackathon in two phases, the event offered more students an opportunity to participate, while also ensuring that the final competition at the college level featured the best talent across departments. This structured approach allowed for a more refined and competitive selection process, making the Internal Hackathon 2024 one of the most comprehensive hackathons to date.

3.3 College Level Hackathon

The college-level hackathon was the second and final phase of the internal event, where 70 teams that had been shortlisted at the departmental level competed. This phase was conducted on 5th September 2024 across three different venues within the campus. The venues were equipped with all necessary technical support, ensuring that teams could focus on their projects without any logistical concerns.

The day started with registration and an inaugural ceremony, setting an enthusiastic tone for the event. Problem statements for this phase were more challenging and were provided by various government organizations across India. These problems reflected pressing issues in sectors such as public infrastructure, healthcare, agriculture, and smart cities, offering the participants an opportunity to tackle real-world problems that could potentially be scaled for national implementation.

The teams had a limited timeframe to brainstorm, develop, and present their solutions to a panel of expert judges. Out of the 70 teams, 50 teams were selected for participation in SIH 2024, with 45 teams being selected directly and 5 teams being placed on a waitlist. The competition was fierce, and the projects presented showcased a wide range of technical solutions, from software applications to hardware prototypes.

The presence of industry and academia experts on the panel added immense value to the judging process, as they provided not only evaluations but also constructive feedback that could help participants refine their projects further. The college-level hackathon was a resounding success, marking a significant milestone in the Internal Hackathon 2024 journey.

3.4 Panels and Jury Members

The Internal Hackathon 2024 featured an esteemed panel of judges from both industry and academia, ensuring a high level of credibility and expertise in the evaluation process. The panel consisted of professionals with diverse backgrounds, including experts in software engineering, hardware development, AI, IoT, and sustainable technologies. Their varied expertise allowed for a holistic evaluation of the projects presented by the teams.

Each panel had industry veterans, academic experts, and startup founders who provided valuable feedback to the teams. Their collective experience in research, product development, and business innovation ensured that the projects were evaluated not just for their technical merit but also for their potential real-world impact. Additionally, the panel members engaged in meaningful dialogues with participants, offering insights that went beyond the immediate scope of the hackathon, thereby enriching the overall learning experience for the teams.

The presence of these jury members lent the event a professional touch and reinforced its objective of fostering innovation and problem-solving. Their involvement also helped create networking opportunities for the participants, allowing them to gain insights into current industry trends and future technological advancements.

The judges played a crucial role in making the Internal Hackathon 2024 a learning-intensive and successful event. In essence, the multi-panel structure and the inclusion of knowledgeable jury members made the hackathon a well-rounded and intellectually stimulating event. It encouraged participants to explore their specific areas of interest while upholding rigorous standards of evaluation and fostering an environment conducive to ground-breaking innovation.

4. Hackathon Agenda

The Internal Hackathon at Shri Vishnu Engineering College for Women was thoughtfully designed to offer participants an optimal environment for creativity, innovation, and collaboration. The event's agenda was a testament to its meticulous planning, aimed at ensuring a seamless and productive experience for all involved.

The agenda began with the registration process, which was efficient and well-organized, setting the tone for the hackathon's professionalism. The inaugural ceremony not only marked the official commencement of the event but also served as an inspirational kickstart for participants.

The problem statement presentation provided teams with a clear understanding of the challenges they were about to tackle, setting the stage for their brainstorming and solution development. The subsequent project showcase was the heart of the hackathon, where participants demonstrated their innovative solutions, fostering an atmosphere of learning and knowledge sharing.

The judging phase was critical in evaluating the projects objectively, and it showcased the event's commitment to maintaining high standards of assessment. Finally, the closing remarks brought the hackathon to a fulfilling conclusion, acknowledging the participants' hard work and achievements.

Overall, this well-structured agenda not only allotted time for coding, debugging, and project refinement but also facilitated invaluable interactions with industry experts and mentors. It encouraged participants to explore, innovate, and excel, making the Internal Hackathon a valuable and enriching experience for all involved.

5. Project Showcase

The Showcase was the highlight of the Internal Hackathon 2024, where the participating teams presented their innovative solutions to a panel of expert judges and their peers. This showcase provided teams the platform to demonstrate their technical prowess and innovative thinking in response to problem statements from various government organizations. The presentations covered a broad range of sectors, including smart cities, public health, agriculture, and public safety, showcasing the diverse range of talents within the student body.

During the showcase, each team had the opportunity to present their projects within a specified timeframe. The teams provided an overview of the problem they were addressing, explained their proposed solutions, and highlighted the technology and processes they used to develop their projects. Teams demonstrated both software applications and hardware prototypes, illustrating how their ideas could be implemented in real-world settings.

The interaction between the teams and the panel of judges was a key aspect of the showcase. After each presentation, the judges engaged in a Q&A session, probing deeper into the technical and practical aspects of the solutions. This allowed the participants to not only

defend their ideas but also refine their understanding of how their solutions could be improved or scaled for larger applications.

The showcase fostered an atmosphere of learning and knowledge exchange, where teams could observe and learn from one another's approaches. Overall, the Project Showcase was a testament to the creativity, technical expertise, and teamwork demonstrated by all participating teams, setting the stage for future innovations and successful participation in SIH 2024.

6. Judging Criteria

The Internal Hackathon 2024 maintained high standards of evaluation, guided by a well-defined set of judging criteria. These criteria were designed to assess not only the technical competence of the teams but also their innovation, collaboration, and overall impact of their solutions. The following parameters formed the backbone of the evaluation process:

1. Innovation: Teams were judged on the originality and creativity of their solutions. The emphasis was on whether the solution provided a fresh perspective to the problem at hand, and whether it could potentially revolutionize the sector it targeted.
2. Technical Complexity: This parameter evaluated the technical depth of the project. It focused on the robustness of the solution, the complexity of algorithms or hardware designs implemented, and how efficiently the technology was applied to solve the problem.
3. Impact: The judges looked for projects that had the potential to make a tangible, positive difference in society or industry. The impact of the solution was measured by its scalability, sustainability, and potential to solve a real-world issue.
4. Presentation: Teams were also judged on how effectively they communicated their ideas. The clarity and organization of their presentations, the ability to explain technical concepts simply, and their responsiveness during Q&A sessions were all considered.
5. Team Collaboration: A key criterion in evaluating projects was the teamwork exhibited by participants. Projects developed through collaborative effort, where each team member contributed their expertise, were rated higher. Judges were interested in how well teams worked together to produce a cohesive solution.

These judging criteria ensured a balanced assessment of each team, focusing on technical ability while also encouraging creativity, collaboration, and the practical applicability of their solutions.

7. Challenges and Learning's

The Internal Hackathon 2024 was not without its challenges, but these hurdles provided invaluable learning opportunities for all participants. One of the primary challenges faced by teams was time management. Given the limited timeframe, participants had to balance ideation, development, and presentation, which pushed them to think quickly and work efficiently under pressure. Many teams realized the importance of prioritizing tasks, focusing on the most critical elements of their projects to deliver functional solutions within the allotted time.

Another challenge was team dynamics. Collaboration is key in hackathons, and participants quickly learned the importance of clear communication, role assignment, and teamwork. Successful teams were those that managed to integrate diverse skills effectively, ensuring that each member's expertise contributed to the project's success. This experience helped many participants sharpen their interpersonal skills, teaching them how to work harmoniously in a team under high-pressure conditions.

Technical challenges were also prominent, especially as many teams attempted to solve complex, real-world problems using advanced technologies. Participants had to rapidly learn and apply new tools, frameworks, and methodologies, adapting their initial ideas as they encountered unforeseen difficulties. Teams learned to embrace adaptability, making quick pivots when certain aspects of their solutions didn't work as planned..

8. Impact and Innovation

The Internal Hackathon 2024 was a significant contributor to fostering innovation and driving impactful solutions within the student community. With the hackathon addressing real-world problems posed by government organizations, participants were given the unique opportunity to work on challenges that had the potential for direct application in various sectors, including public infrastructure, healthcare, agriculture, and smart cities.

Several projects stood out for their potential to be scaled and implemented beyond the hackathon environment. Solutions addressing water conservation in agriculture, automated healthcare monitoring systems, and smart traffic management for urban areas were some of the notable innovations that demonstrated a deep understanding of societal needs and technological applications.

One of the key impacts of the hackathon was its focus on empowering young women in technology, providing them a platform to showcase their skills and creativity. By emphasizing participation from women technologists, the event contributed to fostering a more inclusive and diverse tech ecosystem. The collaborative environment allowed participants to combine their technical skills with creative problem-solving approaches, ultimately producing solutions that were both innovative and practical.

Moreover, the hackathon's structure—beginning with the departmental level and culminating in the college-level competition—ensured that only the most innovative and impactful projects advanced to the SIH 2024. The event proved to be an important stepping stone for participants, offering them a platform to continue refining their projects and contribute to the Smart India Hackathon, where their solutions could potentially impact industries and communities on a national scale..

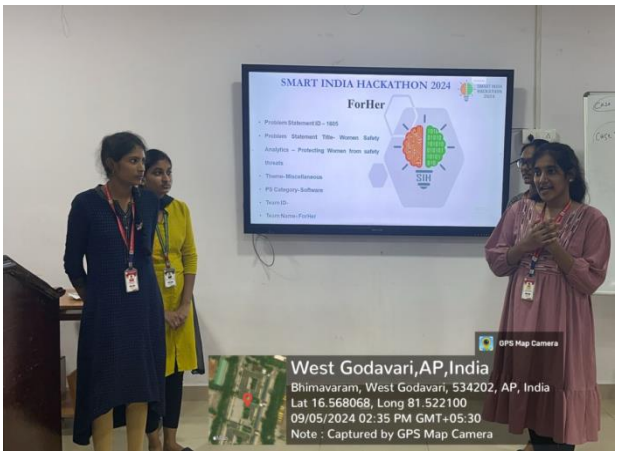
9. Conclusion

The Internal Hackathon 2024 was a resounding success, reaffirming Shri Vishnu Engineering College for Women’s commitment to nurturing creativity, technical skills, and innovative thinking among young women in technology. The success of the hackathon can be attributed to the careful planning, organization, and the involvement of expert judges from industry and academia. These judges not only evaluated the projects but also provided constructive feedback, helping participants refine their solutions and think about their scalability and real-world applications.

The Internal Hackathon 2024 was not just a competition—it was a learning experience that encouraged collaboration, resilience, and creativity. It empowered young women to push the boundaries of technology and problem-solving, setting the stage for a future where they will play a pivotal role in shaping innovation across industries. The event's success has set a high

bar for future hackathons and solidified the institution's role as a hub for technological innovation.

10. Some Glimpses of Internal Smart India Hackathon 2024 at SVECW:

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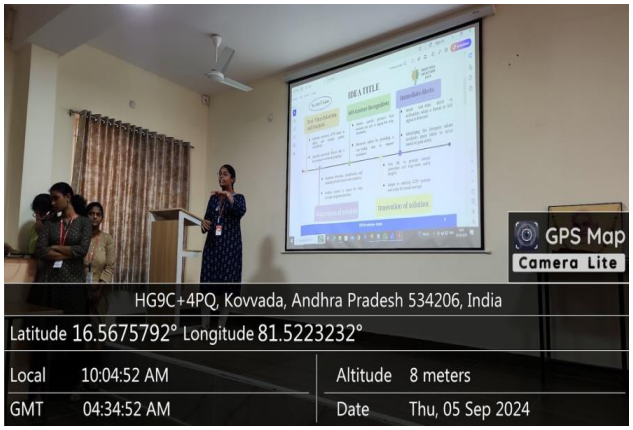
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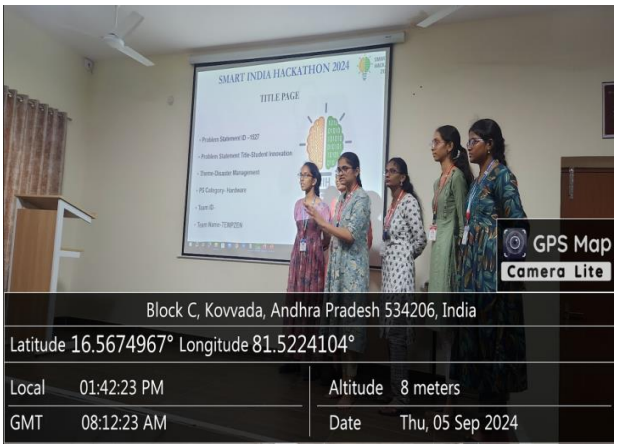
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11. Acknowledgments

We extend our heartfelt gratitude to the following individuals and groups:

Participants: The participating teams for their unwavering enthusiasm and dedication.

Jury Members: The panel of 10 esteemed jury members from academia, innovation, and startups for their invaluable insights and expertise.

Organizing Team: The faculty and staff of Shri Vishnu Engineering College for Women for their tireless efforts in organizing and executing the hackathon.

The success of the internal Smart India Hackathon 2024 was a collective effort, and we look forward to hosting more such events in the future to foster innovation, empower women in technology, and drive positive change in our society and industry.

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SPOC- SIH 2024

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