North South University

CSE499B: Senior Design Project II

Usability & Manufacturing

"Autonote: Transformative meeting summarization and highlighting points based on NLP "

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Overview

In modern workplaces, meetings are essential for collaboration and decision-making. Automatic meeting summarization, powered by Natural Language Processing (NLP), aims to address this challenge by distilling key meeting insights into concise summaries. There can be a system which can make a summary of a meeting while it is running online. Basically, this NLP summerizing develops a system that can automatically generate accurate and informative summaries of meetings. But this meeting summarizes and highlights points lot of usability and manufacturing in the real world, although the specifics may vary depending on the scale and context of its implementation.

Stakeholders

Stakeholders are individuals or groups who have an interest or investment in any project's outcome. For this project the stakeholders are:

- **Faculty:** Supervising impact

The person who basically supervises a particular team or group to help and guidelines to the project like how they can easily handle it. For example, how a group can go to the right path like what types of models, datasets, networks etc they can be used. So, by following the guidelines of the faculty advisor a working team can easily complete a particular task. It can be a project, research or so on.

- **Research and Development (R&D) Team:** Building the project and doing research about this project.

Working team is basically the people or a team who works on a particular task or project by maintaining their unity. So, we are the stakeholders here, means our group members.

- **Community:** Who gives feedback and maintains or works on it. For example: Meeting participants, project managers/team lead, executives or decision makers, developers or engineers, end users etc.

Meeting Organizers: Those who schedule and manage meetings can benefit from summaries to identify any follow-up actions or outstanding items.

Meeting Participants: Those who attend meetings and would benefit from having clear and concise summaries of the discussions.

Project Managers/Team Leads: Individuals responsible for overseeing projects and ensuring that meetings are productive and goals are achieved.

Executives/Decision Makers: Senior leaders who may not have the time to attend every meeting but need to stay informed about key decisions and discussions.

Developers/Engineers: Those responsible for implementing the NLP algorithms and integrating the summarization tool into existing platforms or workflows.

End Users: Any individual or team who rely on meeting summaries to stay informed about ongoing projects and tasks.

Sales teams: Salespeople can use summaries of customer meetings to identify key points, next steps, and potential objections.

Usable to stakeholders

The usability of a tool depends on how well it meets the needs and expectations of its stakeholders and should be evaluated based on how effectively it helps stakeholders achieve their goals related to meeting management, decision-making, and productivity. This can be used as an extension or API. We learn so many things and acquire knowledge from this. It covers the research interest of a supervisor. Finally, a user community can benefit from this.

Moreover, it is used for teaching and learning in another section which highly depends on meetings or something like that and solves the issues of dealing with lengthy meetings. Stakeholders should find the summaries informative, concise, and relevant to their needs. Usability can be measured through user feedback, user testing sessions, and tracking metrics such as the time saved by using the summarization tool compared to manually reviewing meeting transcripts.

Measure

User Satisfaction Surveys: Conduct surveys to gauge user perception of accuracy, completeness, timeliness, and ease of use.

Task Completion Time: Measure how long it takes users to complete tasks using summaries compared to traditional methods.

Number of Active Users: Track how many people are regularly using your tool.

Reduction in Follow-up Emails: See if there's a decrease in emails needed to clarify meeting points after using summaries.

Integration with Other Tools: Evaluate how smoothly the tool integrates with existing platforms users rely on.

Efficiency: Measure the time saved by stakeholders when using the tool compared to traditional methods of meeting review and note-taking. Calculate the average time taken to generate summaries and highlight key points.

Accuracy: Assess the quality of the summaries generated by the tool by comparing them to the original meeting transcripts or notes. Use metrics such as precision, recall, and F1 score to quantify the accuracy of the summaries.

Accessibility: Evaluate the ease of use and accessibility of the tool's interface. Conduct usability testing with representative users to identify any usability issues and gather feedback on how to improve accessibility.

Customization: Measure the extent to which stakeholders utilize customization features offered by the tool. Analyze user preferences and settings to understand how stakeholders tailor summaries to their specific needs.

Integration: Assess the level of integration with existing workflows and software tools. Measure user adoption rates and track usage metrics to determine how seamlessly the tool integrates into stakeholders' existing processes.

By combining these methods and tailoring them to specific stakeholders, the project effectively assesses the usability of the project.

Manufactured for a real-world audience

Manufacturing for a real-world audience involves several things. First, we need to develop a working prototype of the tool, ensuring it includes core features such as summarization algorithms, highlighting functionalities, and user interface elements. Once it has a prototype, then conduct usability testing with representative users to gather feedback on the tool's functionality, ease of use, and effectiveness in meeting stakeholders' needs. Use this feedback to refine and improve the tool through iterative development cycles. When finalizing the tool, consider factors such as scalability, security, and compatibility with existing software platforms commonly used in corporate settings. However, documentation

of the tool's features, functionalities, and best practices in user guides and documentation materials to assist users in adopting and utilizing the tool effectively. Finally, launch or deploy the tool to target audience through marketing campaigns, demonstrations, or presentations at industry events, highlighting its benefits and unique selling points. Continuously monitor user feedback and usage metrics to identify areas for improvement and release updates with new features or enhancements based on evolving user needs and requirements.

Software or API: For a software, Users can quickly install the application and start using its functionalities without needing technical expertise or development skills. Moreover, API can offer programmable access to the summarization and highlighting functionalities, allowing developers to integrate these capabilities into their own applications, workflows, or systems. This flexibility enables users to leverage the tool's functionalities within their existing environments, customizing and extending its capabilities to suit their specific requirements.

- **User friendly:** While APIs typically target developers, they can still be user-friendly by providing clear and comprehensive documentation, code samples, and SDKs (Software Development Kits). Developers can easily understand how to use the API, access its functionalities, and integrate them into their applications with minimal effort. They can easily navigate through the features, input their meeting data, and access the summarized and highlighted points with minimal effort. Additionally, the application can provide prompts, tooltips, and visual cues to guide users through the process, enhancing usability and user satisfaction.

User-Centric Design: Involve stakeholders in the design and development process to ensure that the tool meets their needs and preferences.

Integration with Existing Tools: Integrate the summarization tool with existing meeting platforms or project management systems used by stakeholders to streamline their workflow.

Scalability and Reliability: Ensure that the tool can handle large volumes of meeting data and operates reliably to meet the needs of a real-world audience.

Training and Support: Provide training and support resources to help stakeholders effectively use the summarization tool and address any issues that may arise.