CCIS PROPOSAL RE-ROUTING, AGREEMENT AND ACCEPTANCE OF THESIS-CAPSTONE (CCIS 003)

IMPORTANT INFORMATION:

- Copies: (1) Student, (1) Adviser, (1) Program Chair

COURSE CODE	CS200D-1	GROUP CODE	25-CS-018

NAME OF STUDENTS (SURNAME, GIVEN NAME, MI.)	STUDENT NO.	MOBILE NUMBER	E-MAIL
Acquiat, Ken Gyrro P.	2022140813	09292265192	kgAcquiat@mcm.edu.ph
Dones, Aisha Nicole L.	2020110055	09065224542	anDones@mcm.edu.ph
Nadela, James Andrei C.	2020103903	09771203453	jaNadela@mcm.edu.ph

AGREED UPON DURING PROPOSAL PRESENTATION

Legend of the incorporated revisions:

1. Dr. Patrick Cerna
2. **Dr. Genevieve Pilongo**
3. Prof. Christopher Lungay

PANEL MEMBERS'S NAME	COMMENTS & SUGGESTIONS	ACTION TAKEN (with Page Number)	PANEL MEMBER'S SIGNATURE
Dr. Patrick Cerna	1. **Manuscript Organization & Formatting:** - Dr. Cerna concurred that large figures should not appear in the introduction, especially not on the first page. He recommended using **narrative exposition** instead and relocating figures to the **literature review**. - He emphasized the need to create a **system architecture diagram** to illustrate how the hybrid model integrates Whisper, the UP dataset, and pediatric speech analysis components. - He also suggested including a supplementary **speech processing flowchart** to demonstrate pediatric acoustic handling and feature extraction (e.g., stress, pitch, glottal stops). 2. **Citations & References:** - Dr. Cerna reminded the team that article **titles should not appear in the body text**. Instead, researchers should cite using author-year format and reserve full titles for the reference list. - He stressed that **NLP (Natural Language Processing)** must be explicitly mentioned across relevant sections of the manuscript—including the introduction, methodology, and system	1. **Manuscript Organization & Formatting:** - Figure moved to Chapter 2: Related Works (Page 8) from Chapter 1; narrative retained in Chapter 1 Introduction (Page 3). - System Architecture diagram added (Page 28). - Speech Processing Flowchart incorporated as suggested (Page 39). 2. **Citations & References:** - Removed title mentions within in-text citations, particularly on Page 16. - The manuscript incorporates Natural Language Processing (NLP) in its discourse, with particular references found on Pages 3, 8, and 21.	

	architecture—to properly contextualize the research within its CS subdomain. 3. **Data Composition & Source Attribution:** - Dr. Cerna specifically instructed the team to include a **table or figure showing the composition of datasets used** in training and testing. This should break down the **percentage contribution from each data source**, including the **UP-FSC dataset, Whisper**, and any additional sources. - He emphasized the importance of verifying and documenting the **license terms of Whisper (OpenAI)** and ensuring that the usage and potential redistribution of combined datasets comply with those terms. 4. **Research Objectives:** - Dr. Cerna advised refining the research objectives to conform to **SMART criteria**. He particularly recommended replacing vague verbs like “refine” with measurable alternatives such as “create” or “develop.” - He noted that the **third objective**, which concerns application performance evaluation, leans into **Information Systems (IS)** and should be reframed to focus on **model evaluation using computational metrics** like **Word Error Rate (WER)** or other CS-aligned evaluation tools. 5. **Institutional Context:** - He encouraged the inclusion of institutional context by citing a **previous MMCM Bisaya speech recognition study**, which would help position the current research within Mapúa's ongoing contributions to Filipino speech processing research.	3. **Data Composition & Source Attribution:** - Tables detailing the original dataset composition (Page 24) and the cleaned, preprocessed dataset composition (Page 26) have been added. - License terms for Whisper (MIT), ASR-SFDuSC (CC BY 4.0), and UP-FSC (per signed pledge) have been verified, documented, and included. The use of these resources adheres to all stated licensing terms (Page 23). 4. **Research Objectives:** - The term "to engineer" was used instead of "to refine" (Page 6). - The 3rd objective was modified to be more Computer Science-related (Page 6). 5. **Institutional Context:** - A previous study by MMCM students on Bisaya speech recognition was cited (Page 9).	
Dr. Genevieve Pilongo	1. **Manuscript Organization & Formatting:** - Dr. Pilongo observed that placing a large figure on the first page of the introduction without textual support detracted from the manuscript's presentation. She recommended relocating such figures to the literature review and presenting introductory content narratively. - She also emphasized the importance of correct citation practices, particularly in aligning figure references (e.g., Figure 1: Sanders, 1972) with proper textual attribution to avoid redundancy and ambiguity. - She advised the inclusion of a **synthesis section** following Sections 2.2 to 2.8 in the RRL to consolidate the discussions	1. **Manuscript Organization & Formatting:** - The figure was moved to Chapter 2: Related Works, specifically to Page 8. - Figures were properly cited, notably on Page 9. - A synthesis section was included at the conclusion of Chapter 2: Related Works, found on Page 20.	

	on models and algorithms and link them clearly to the current research direction. 2. **Participants & Ethical Considerations:** - Dr. Pilongo noted the absence of a **Participants subsection** in the methodology. She advised the researchers to explicitly define the participants' age, number, and selection rationale (i.e., 4-year-old children, n=3). - She stressed the importance of clearly stating **ethical safeguards**—particularly parental consent—given that children are a **vulnerable research population**. - She also warned about potential **researcher bias** in selecting only one age group (4 years old) and recommended supporting this choice with developmental or educational literature. 3. **Research Objectives:** - Dr. Pilongo raised concerns that the **second objective**, which references the development of a **gamified mobile interface**, mirrors a study format from the **EMC** domain and could constitute a **standalone research effort**. She advised rephrasing or narrowing the scope to align better with the core focus of the CS domain. - She recommended treating the application as an **artifact for testing** the hybrid model, rather than as a central deliverable.	**2. Participants & Ethical Considerations:** - The Data Analysis Plan section within Chapter 3: Methods (Pages 31-32) specifies the study participants. - Chapter 3: Methods (Page 40), in the Trustworthiness of the Study section, highlights adherence to ethical standards, including parental consent. - Supporting references for the target age group and sample size of participants are cited within the Data Analysis Plan section of Chapter 3: Methods (Pages 31-32). **3. Research Objectives:** - The second research objective was revised to align more closely with Computer Science principles (Page 6). - The second research objective was further refined to produce a hybrid model as a testable artifact (Page 6).	
Prof. Christopher Lungay	1. **Clarification of Research Scope:** - Prof. Lungay noted that although the team initially described their system as a refinement of Whisper, the actual integration of additional acoustic components (such as glottal stop and stress detection) constitutes more than simple fine-tuning. He recommended describing the system as a **"hybrid model"** to more accurately reflect its expanded architecture and distinguish it from conventional ASR projects. - He emphasized the importance of clearly articulating the **research gap**—namely, the lack of ASR models that have been validated on **Filipino pediatric speech**, particularly within underserved communities.	1. **Clarification of Research Scope:** - Revised the title to reflect a hybrid system approach (Cover Page). - Strengthened the articulation of the research gap at the outset of Chapter 1: Introduction (Page 3). 2. **Supporting Literature & Habilitation Focus:** - Incorporated relevant literature supporting speech habilitation within the Unique	

	2. **Supporting Literature & Habilitation Focus:** - He specifically advised the team to **include literature that supports the concept of habilitation**. Since the project targets pediatric speech habilitation, it is essential to cite articles and research outcomes that establish habilitation as a valid therapeutic and developmental goal. - He noted that while related literature does cover pediatric speech variability, the manuscript lacks supporting studies that **directly address habilitation as opposed to general speech therapy or rehabilitation**. 3. **Model Innovation & Description:** - Prof. Lungay asked the researchers to define **what level of modification** is being made to the model—clarifying whether this constitutes fine-tuning, structural changes, or integration of new modules—and how this leads to **a novel contribution**. - He also asked the team to explain their **definition of modification** and their adherence to it in implementation and documentation. 4. **Ethical Considerations & Clinical Framing:** - He raised questions about the **ethical data acquisition process**, particularly regarding the training and use of children's voice data. He emphasized the need to disclose and document how data from OpenAI Whisper and the UP-FSC dataset are used in compliance with licensing and consent agreements. - He noted that the tool is not intended to be diagnostic but therapeutic in nature. As such, he encouraged the use of clinically appropriate terminology, suggesting that the term **"patients"** may be more suitable than "users" depending on the recommendation of the partner therapy center. - He also recommended the inclusion of the **Ling-6 hearing test** in the methodology and conceptual framework as a prerequisite before speech articulation is evaluated, to ensure hearing issues are not confounding the results. **5. Collaboration & Evaluation Metrics:** - Prof. Lungay inquired whether the team has **collaborated with speech therapists or pediatricians** to validate the system's outputs and practical utility.	Features of Pediatric Speech subsection of Chapter 2: Related Works (Page 13). 3. **Model Innovation & Description:** - The system is uniquely tailored for pediatric speech habilitation by fine-tuning a model on Filipino speech data without structural changes and adding a distinct prosodic analysis module (Page 28). - "Modification" is defined as the system's functional adaptation through targeted training and system-level integration, consistently implemented as such (Page 28). 4. **Ethical Considerations & Clinical Framing:** - Clarification was added following Table 1 to confirm that only one minor, with no directly collected child data, is present in ASR-SFDuSC. It was also verified that UP-FSC comprises exclusively adult speakers. All data usage adheres to licensing and consent stipulations (Page 25). - At the suggestion of the Apex Therapy Center, the phrase "typically developing children" is utilized (Page 31). - The Ling-6 Hearing Test has been integrated into the methodology and conceptual framework (Page 38).	

	- He also asked how the model's performance would be measured and what **metrics** (e.g., **Word Error Rate**) would be used. He suggested that the chosen metrics be supported by standardized tools or instruments and **cited appropriately in the RRL**. - He requested details about the **sample size for testing**, and how the team would **measure speech improvement**, whether through pre/post comparisons or therapist evaluations. - Regarding model training, he inquired about the necessary number of **training epochs** for assessing accuracy. Furthermore, he questioned if any specific criteria existed for implementing early stopping or determining model convergence.	5. **Collaboration & Evaluation Metrics:** - Evidence of Collaboration with Apex Therapy Center is documented in Appendix A (Pages 52-54). - The selected metrics are substantiated in Chapter 2: Related Works (Pages 18-20).. - The sample size is detailed in Chapter 3: Methods (Page 31), and validation of the model by licensed speech therapists is outlined within the same chapter (Page 34).	

Engr. Neil P. Magloyuan (Signature over printed name/date)	Dr. Genevieve Pilongo (Signature over printed name/date)
ADVISER	COURSE FACILITATOR