"Speech Based Communication Device for the Elderly" - A project based HCI course

IE403 2019

Targeting the following use cases:

- Accessing Music / Video
- Video Calling to Family
- Booking Transport (Uber / Ola)
- Utility Management

PREREQUISITES
Mobile application development knowledge is mandatory

- JavaScript / JSON
- Python / PHP / MySQL
- Java + Android Libraries
- Google Colab
- Etc.

GRADING POLICY
Credit will go where it is due, and nowhere else

- 4% weightage will be given to each week's submission as a group (by 23:59 as per the given schedule) + 2% will be awarded to the best project/s at the end of the term = 50% weightage on project
- This 4% includes quality of report (to judge the work done) and class participation of each group member
- Late submission will attract 1% penalty per day
- Failure to submit beyond a week will nullify the next submission.
- Teams of 10 members each, will compete for the best project/s and each week the best submission will be chosen for a 10 min presentation. Therefore all groups must be present and prepared.
- Each plan must be accompanied by a Gantt chart and ownership of each activity.
- The primary owner will be considered as primary responsible, as well as receive the maximum rewards for that week's deliverable, i.e. each group member will receive a weighted grade reflecting participation and leadership
- Deliverables of week 8, 9, 10, and 12 may contain >1 sub activities - therefore >1 primary responsibles, and if selected for presentation, a group presentation will be expected.

- An individual written test will be given during the 2nd in-sem calendar of the institute - it will carry 20% weightage
- An individual take-home assignment with 25% weightage by Prof. Bakul Gohel to be announced.
- Surprise class quizzes will have 5% weightage

All submissions are subject to <10% plagiarism similarity score as computed by Turnitin

Project Schedule

Week	Deliverable	Submission Date	Grading	Reading / Reference
1	-	-	-	Brief History of HCI http://www.mathcs.emory.edu/~valerie/courses/spr11/485/resources/HCI-history.pdf User-Centred Design https://www.vtt.fi/inf/julkaisut/muut/2005/UCD_Guidelines.pdf Norman's Interaction Model http://groups.cs.umass.edu/nmahyar/wp-content/uploads/sites/8/2019/03/690A-10-ConceptualModels.pdf

#	Deliverable	Date	Assessment Criteria	Resources
2	Prima Facie Report & Primary Research Plan	9 Aug	- Volume of secondary research conducted - Quality of generalised insights - Rationale of research questions - Appropriateness of research methods (Must include minutes of group discussions and proper mention of ownership and contributions)	Desktop Research https://www.ands.org.au/__data/assets/pdf_file/0003/713235/Tips_for_Collecting_Reviewing_and_Analyz.pdf SWOT Analysis https://my.cumbria.ac.uk/media/University-of-Cumbria-Website/Content-Assets/Public/LISS/Documents/Careers/SWOT-analysis-Final.pdf HCI Research Methods https://slideplayer.com/slide/11969258/ [Chapters 1, 2 & 3] Researching the Elderly http://staff.computing.dundee.ac.uk/jarnott/BIT2007-Methods.pdf
3	Quantitative Survey Report	16 Aug	- Volume of surveys conducted - Validity of survey data (representative sample quality, appropriateness of research questions) (Must include minutes of group discussions and proper mention of ownership and contributions)	Surveys https://slideplayer.com/slide/11969258/ [Chapters 4 & 5]
4	Qualitative Research Report WIP	23 Aug	- Richness of data collected (capture in various media, fidelity of recording) - Validity of data collected (representative sample quality, appropriateness of testing objectives, quality of probing and logic of observations) (Must include minutes of group discussions and proper mention of ownership and contributions)	User Test https://slideplayer.com/slide/11969258/ [Chapters 8, 9 &10]
5	Qualitative Research Report	30 Aug	- Richness of data collected (capture in various media, fidelity of recording) - Validity of data collected (representative sample quality, appropriateness of testing objectives, quality of probing and logic of observations) - Strength of Hypotheses (Must include minutes of group discussions and proper mention of ownership and contributions)	User Test https://slideplayer.com/slide/11969258/ [Chapters 8, 9 &10]
6	Conceptual Designs (2 x 10)	13 Sep	INDIVIDUAL ASSESSMENT - Intelligible conveyance of solutions - Persuasiveness of solution presentation - Hypothesis-solution fit	
7	Candidate Selection Report	20 Sep	- Rationale of candidate rankings - Refinement of hypotheses and prototyping approach (Must include minutes of group discussions and proper mention of ownership and contributions)	
8	Structural Design	27 Sep	- Selection of central object and metaphors - Choice of interaction and navigation paradigms - Completeness of task flow diagrams - Selection of interface templates - Application of HCI principles (Must include minutes of group discussions and proper mention of ownership and contributions)	
9	Prototype WIP & Software Development Plan - WHAT (30%) *	4 Oct	- Completeness of low-fidelity prototype - Identification of implementation modules and challenges therof - Selection of mimimum viable product (MVP) - Application of HCI principles (Must include minutes of group discussions and proper mention of **ownerships** and contributions)	
10	Prototype WIP & Software Development Approach - HOW (60%) *	11 Oct	- Progress on working prototype as per Gantt chart (as in the Sotware Development Plan) (Must include minutes of group discussions and proper mention of **ownerships** and contributions)	

11	Working Prototype (100%) *	18 Oct	- Completeness of working prototype as an MVP - Self assessment of hypothesis-solution fit and interaction principles applied - User testing objectives (Must include minutes of group discussions and proper mention of **ownerships** and contributions)	User Experience https://www.youtube.com/watch?v=lEvhxJKTQK8 https://www.youtube.com/watch?v=eCpp0W-znJ0 The business case for experience https://www.watermarkconsult.net/blog/2019/01/14/customer-experience-roi-study/
12	User Testing Report	8 Nov	- Experimental design - Improvement acheived - Rationale of changes in next iteration (Must include minutes of group discussions and proper mention of ownership and contributions)	
13	Prototype Iteration, Publication (APK / AppStore) and Full Project Report	15 Nov	*You did it! Congratulations*	Parting gifts https://www.userfocus.co.uk/fable/