

# Project Aspen: A Single-Source-of-Truth Approach to Digital Transformation in Higher Education

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# How to reduce faculty data entry burden but ensure completeness?

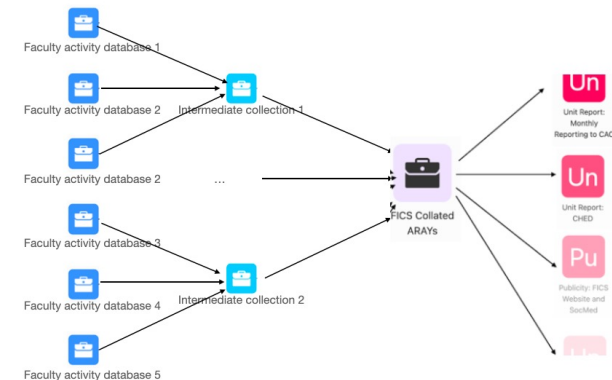
- UPOU Faculty of Information and Communication Studies, 2023-2025
- 10+ distinct reporting requirements across internal and external stakeholders
- **Single-source-of-truth:** enter once, store centrally, use everywhere
- **Prototype-stage, proof of concept:** requiring no-code maintainability by non-programmers

| Title  | Funding Source  | Role   | Amount (PHP) | Period                       |
|--|---|--|--------------|------------------------------|
| The bioSignals Project (in collaboration with teams from the United Kingdom and New Zealand) | British Council and UP President's Committee for Culture and the Arts | International Co-Lead and Philippine Team Lead | 872,106.40   | January 2024 - November 2024 |
| Creation of a new Biomodell installation at the MUSEUM of Science in Italy (Biomod [TTO])    | Asia Europe Foundation  | Co-Lead (with UK collaborator Amy Holt)        | 616,000.00   | February 2024 - October 2024 |
| Wearable Futures Hackathon and Emerging Futures-in-Residence Program                         | UPOU FICS and UPOU API 2022 Bukas Lab funds                           | Lead   | 286,496.12   | 2023-2024                    |

# End user experience - the personal portfolio

- Platform choice: Airtable. No-code = relational database power without custom coding. Cheap (i.e., free)
- Single personal portfolio for *all* activities
- Clear and consistent taxonomy
- Trade-off: lotsa fields for multi-purpose utility

| Responsibility or Achievement  | Promotion categories                              | Primary evidence | Basic Category            | Start date         | End date (ac...   |
|--|---|------------------|---------------------------|--------------------|-------------------|
| Zomerspoor [Exhibition]. Herentals, Belgium. (2023). <a href="https://zomerspoor.be">https://zomerspoor.be</a>                                 | II.D. ★Exhibition (visual arts, multimedia)IT, an |                  | Research and Creation     | August 20, 2023    | August 23, 2023   |
| Nasser, M., Peres, N., Knight, J., Haines, A., Young, C., Maranan, D., Wright, J., Carvill, P., Robinson, K., Westmore, M., Griffin, J., & ... | II.A.1. ★Articles in indexed journals (Parent ca  |                  | Research and Creation     |                    | May 25, 2020      |
| Maranan, D. S., Grant, J., Matthias, J., Phillips, M., & Denham, S. L. (2020). Haplois: Vibrotactile Somaesthetic Technology for Body ...      | II.A.1. ★Articles in indexed journals (Parent ca  |                  | Research and Creation     | February 9, 2020   | February 9, 2020  |
| UTS x UP Open Doctoral Collaboration: Promoting UP faculty development through distance education  | IV.O. ★Leadership Development through Ment        |                  | Extension & Public Ser... | June 24, 2024      |                   |
| User in Flux Workshop Exhibition at CHI 2011 [Exhibition]. (2011). Vancouver, Canada. ...  | II.D. ★Exhibition (visual arts, multimedia)IT, an |                  | Research and Creation     | May 1, 2011        | May 1, 2011       |
| Flow   | II.B. ★Creation of new art (Parent category: II.  |                  | Research and Creation     | May 1, 2011        | May 1, 2011       |
| FICS T2W for Drafting New Associate Programs, Chair  | III.B.1. ★Membership in committee (short/adh      |                  | Administration            | July 1, 2022       |                   |
| DSM2025 Project Talingting: Development of concept note for innovating the learning center   | II.H.1. ★Project Leader (Parent category: II.H.   |                  | Administration            | January 13, 2023   |                   |
| Promises Are Made to be Broken (2009 version)  | II.B. ★Creation of new art (Parent category: II.  |                  | Research and Creation     |                    | November 30, 2006 |
| Successful application for UP System OIL Grant - UP System-Supported CU Hosting of International Conferences, Lead                             | III.B.3.4. ★National < PIM (Parent category: III  |                  | Administration            | September 13, 2019 |                   |



For CAC Monthly Report (Narrative): Activities started, ended, or updated from the past 45 days

Projects that have been identified as a FICS Flagship Activity

For instance identified during Strategic Planning Sessions, Faculty Council Meetings, etc.). These are marked with four flags.

**Default filters and sorts**  
 Date filters: End date (actual), end date (target), start date, or date of last update is from the past 45 days.  
 Dean's watchlist filters: 2-4 flags  
 Sort: Focal person

| Responsibility or...  | Updates (combined for CAC Matrix Report)   | Date o        |
|---|--|---------------|
| 1 DCS Curricular Revision   | [BP27B-24UJ7] DCS Curricular Revision. Completion status: 10%. Reported by Blancafor P. Arada. Last updated: 2025 Oct 01   | October 1, 20 |
| BASIC CATEGORY  |  |               |
| Research and Creation 2   |  |               |
| 3 Invited panel member, "BREAKING BOUNDARIES: rethinking art, technology and sustainability for the future", MUSE Science Museum, Trento, Italyrr | [DS665240905] Invited panel member, "BREAKING BOUNDARIES: rethinking art, technology and sustainability for the future", MUSE Science Museum, Trento, Italyrr. Completion status: 100% Ready for closing and final reporting. Reported by... | November 1,   |
| Source-of-Truth Approach  | [DS627240215] ICDE 2025 Concise Talk - Project Aspen: A Single-Source-of-Truth Approach to Digital Transformation in Higher Education. Fixed the portfolio generator bugs. ARAY can  | September 18  |

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Home Programs Research areas People Opportunities

Instruction, research, and public service initiatives

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SDGs

- GOAL 2: Zero Hunger. (2)
- GOAL 3: Good Health and...
- GOAL 4: Quality Education...
- GOAL 5: Gender Equality (...)
- GOAL 6: Clean Water and...
- GOAL 7: Affordable and Cl...
- GOAL 8: Decent Work and...
- GOAL 9: Industry Innovati...
- GOAL 10: Reduced Inequa...
- GOAL 11: Sustainable Citi...
- GOAL 12: Responsible con...
- GOAL 13: Climate action (6)
- GOAL 15: Life on land (4)
- GOAL 16: Peace justice an...
- GOAL 17: Partnership for t...
- N/A (1)

Portfolio generator

This portfolio generator will display all entries from a given view from your ARAY database. It will display at a minimum the name of each entry; its unique ID; the category (i.e., instruction, research/creative work, public service/extension, administration, professional development); the basic description; any PR-friendly description; all associated URLs; and all attached files. JPEG, PNG, and PDF files are rendered in full resolution and with all pages included. However, only the first pages of other file types (e.g., Microsoft Word and Excel files) are rendered, and only at medium resolution; some attachments may not be rendered at all. You can also add up to three additional fields you want to display.

Required Airtable fields

Airtable Base ID. The unique ID that can be found in the URL of your ARAY. Usually starts with "app"

View name: What is the name of the view that contains the records you want displayed

TEMP

What title do you want to appear on this portfolio?

Sample Portfolio

Other Airtable information. You can probably keep the default settings but please double check.

Name of the table in the base (the name of the tab in your Airtable)

14. Wrist-Based Electrodermal Activity Monitoring for Stress Detection Using Federated Learning [Research and Creation]

15. Putra, M. A. P., Rachmawati, S. M., Abisado, M., & Sampedro, G. A. (2023). HFTL: Hierarchical Federated Transfer Learning for Secure and Efficient Fault Classification in Additive Manufacturing. IEEE Access. [Research and Creation]

16. M. A. Paramartha Putra, N. W. Utami, I. G. Juliana Eka Putra, N. Karma, A. Zainudin and G. A. R. Sampedro, "Collaborative Decentralized Learning for Detecting Deepfake Videos in Entertainment," 2024 IEEE Gaming, Entertainment, and Media Conference (GEM), Turin, Italy, 2024, pp. 1-4, doi: 10.1109/GEM61861.2024.10585565. [Research and Creation]

17. M. A. P. Putra, A. Zainudin, R. N. Alief, G. A. Sampedro, D. -S. Kim and J. -M. Lee, "Blockchain-based Federated Learning for Bearing Fault Detection in the Industrial Internet of Things," 2023 14th International Conference on Information and Communication Technology Convergence (ICTC), Jeju Island, Korea, Republic of, 2023, pp. 1059-1074, doi: 10.1109/ICTC58733.2023.10392487. [Research and Creation]

18. Featured: Identity, Community, and Resilience: Exhibitions in October 2024 [Research and Creation]

Generated by the FICS Portfolio-generator

1. Engines of Eternity: Data Monument (Version 2) (DS154221202)

Basic Category

Research and Creation

PR-friendly Description that can be shared on social media and public platforms

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Home Programs Research areas People Opportunities

Recent Faculty Publications

- Windmills of Her Mind: 'A History of Hollows' offers artist Micaela Benedicto's powerful snapshot of her aging mother's home
- Bandalaria, M. (2024). The Philippine MOOCs: Shaping the Path Towards the University of the Future. In MOOCs in Asian Higher Education (1st ed., pp. 83-99). Universitas Terbuka.
- Moldez, C., Crisanto, M. A., Cerdeña, Ma. G. R., Maranan, D. S., & Figueroa, R. (2024). Innovation in Education: Developing and Assessing Gamification in the University of the Philippines Open University Massive Open Online Courses. ASEAN Journal of Open and Distance Learning, 16(1), 27-42. https://doi.org/10.5281/zenodo.1369144

Recent Faculty Presentations

- bioSignals exhibit (NO Community-Run Space, Dillman, Quezon City)
- Invited panel member, "BREAKING BOUNDARIES: rethinking art, technology and sustainability for the future"
- Suplemento, J. I., & Maranan, D. S. (2024, June 25). The Wearable Futures Hackathon: Futures thinking, speculative design and wearable technologies in the Global South. 29th International Symposium on Electronic Art (ISEA 2024), Brisbane Convention & Exhibition Centre, Brisbane, Australia. https://doi.org/10.5281/zenodo.1277023
- Japan Association for Language Teaching Computer Assisted Language Learning (JALTCALL) 2024

Recent Theses & Dissertations

- A Predictive Model for Online Content Virality: The Case of University of the Philippines Open University's Massive Open Online Courses Calendar
- SHAIRA FRANCIA TANAY (MDC). Adviser: Melinda Bandalaria
- Design, Development, and Testing of Tacit Knowledge-Capturing Protocol of PHILMech Scientists
- JETT GONZALES SUBABA (MDC). Adviser: Melinda Lumanta
- The Social Construction of Inclusivity on a Digital Platform: An Analysis of a Facebook Page of People with Dwarfism
- JORY ALFONSO PINEDA (MDC). Adviser: Jean A. Saluadarez

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Home Programs Research areas People Opportunities

Roberto B. Figueroa Jr.

Associate Professor of Information Technology and Education Technology

Dr. Roberto B. Figueroa Jr. is an educational technologist with a strong computer science and immersive learning background. Besides being an academic member and researcher of the University of the Philippines - Open University, he is also currently the Director of the Immersive Open Pedagogy (IOP) Program and the Deputy Director for the Center of Open Digital Learning.

Research Interests

Immersive Open Pedagogies, Immersive Technologies for Sustainability, Virtual Reality in Education, Learning in the Metaverse, Collaborative Online International Learning

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Virtual Office Hours

+ Selected publications

- Eguerra, J. R., Figueroa Jr, R. B., Rodriguez, F., Fukuda, A., & Anzal, Y. (2024). Collaborative Online International Learning: A Reflexive Thematic Analysis of Narratives from the Metaverse. International Journal in Information Technology in Governance, Education and Business, 4(1), 100-106.
- Kamran, M. I. R., Figueroa, R. B., & Zubairi, A. (2024). An Evaluation of Virtual Learning Environments in Three Open Universities in Asia. Turkish Online Journal of Distance Education, 25(1), 200-212.
- Figueroa Jr, R. B. (2023). Immersive capability and spatial presence in virtual reality photo-based tours: implications for distance education. Asian Association of Open Universities Journal, 18(2), 201-217
- Figueroa Jr, R. B. (2023). International Journal in Information Technology in Governance, Education, and Business, Issue Vol. 5, Number 1 (Guest Editor)
- Figueroa Jr, R. F. A. Gil, H. Taniguchi, and J. R. Eguerra. (2022). Virtual Reality Photo-Based Tours for Teaching Filipino Vocabulary in an Online Class in Japan: Transitioning into the New Normal. International Journal in Information Technology in Governance, Education and Business, 4(1), 29-41.
- Figueroa Jr, R. B., Gil, F. A. P., & Taniguchi, H. (2022). Piloting Virtual Reality Photo-Based Tours among Students of a Filipino Language Class: A Case of Presence Remote Teaching in Japan. Front, 13(7).

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PUBLICATIONS AND PRESENTATIONS

ARTICLES IN JOURNALS AND INDEXED CONFERENCE PROCEEDINGS

Moldez, C., Crisanto, M. A., Cerdeña, Ma. G. R., Maranan, D. S., & Figueroa, R. (2024). Innovation in Education: Developing and Assessing Gamification in the University of the Philippines Open University Massive Open Online Courses. ASEAN Journal of Open and Distance Learning, 16(1), 27-42.

Vermeulen, A. C. J., & Maranan, D. S. (2023). Raderdieren, klonen, DNA en het in kaart brengen van menselijke ideologie in de ruimte [Rotifers, cloning, DNA and mapping human ideology in space]. Podium Voor Bio-Ethiek, 30(2), 20-26. https://nvbe.nl/podium-voor-bioethiek/

Kuchner, U., Nasser, M., Steyaert, P., Birsel, Z., Maranan, D. S., Haines, A., Peeters, A., & Vermeulen, A. C. J. (2023). Biomodd: The integration of art into transdisciplinary research practices. GAIA - Ecological Perspectives for Science and Society, 32(1), 144-153. https://doi.org/10.14512/gaia.32.1.12





# Advantages

- Single-entry efficiency: eliminates redundant data across ten-plus systems
- Scalable, cost-effective, consistent
- Rapid deployment: days or weeks, not months or years, to working prototype

# Disadvantages

- More senior colleagues resisted new system, disliked interface
- Potential for platform lock-in



# 30th ICDE

## World Conference 2025



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