



EXECUTIVE SUMMARY

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IGM 2010-2025: A Future Vision of the Department of Interactive Games & Media: A Whitepaper

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This document is an executive summary of a whitepaper written in response to the request of Professor Jorge Diaz-Herrera, Dean of the B. Thomas Golisano College of Computing and Information Sciences, as a part of the strategic planning process of the college. In addition, synergistic with campus-wide planning initiatives, including the 'RIT 2025' discussion initiated by President William Destler and Provost Jeremy Haefner. Broadly speaking, the future of the IGM department through 2025 rests in its ability to realize the department mission, which involves 1) continuing the success of the department curriculum of and the education of students in academic programs within IGM, 2) advancing the field through scholarly contributions and the production of creative works, 3) continuing to operate on the cutting edge of the fusion between media production and computation, and 4) supporting and extending collaborative works that combine and integrate our interests in games and interactive media with other domains. The current growth projections for the department indicate that the department will be roughly the same size as the existing Computer Science department. There are many possible ways to go about this, but there are a few key industry trends that will drive the field, and there are changes in both our academic offerings and processes that will be critical in meeting the demands of the future relative to these trends. IGM, because of its focus on computing as both a science and an art, has a unique role to play both within the Golisano College and in the Institute as we move forward toward becoming an 'innovation university'.

Interactive Games & Media studies computing as a discipline of duality. At one level, computing is truly a science and students must familiarize themselves with the preciseness of computing as well as its ability to accommodate a scientific mode of inquiry. At another level, computing is an art and expression of the creative process. This duality emerges in the earliest courses in the department, as the introductory IGM student must master both the strictness of the digital world as well as the elegance and beauty of a particular solution. The science and art of computing are inexorably intertwined and each aspect cannot hold without each other. As a faculty, we strive to produce and disseminate a curriculum that conveys both the science and art of the discipline, to illustrate different techniques, optimizations, and tradeoffs along both axis.

Trends that will drive Curricular Directions

There are three major trends that, in the views of the author, will define the relevant academic space within which the department will continue to grow and flourish. These three trends, broadly speaking, are 1) media convergence, 2) persistent and pervasive experiences spanning a range of home and mobile devices, and 3) content and interactivity that extends beyond the current concept of computer, console, and mobile device. The first of these, convergence, can be seen throughout industry, academia, and even

the audiences traditionally associated with interactive works of various forms. Lines are blurring between 'game studies', 'development', 'interactive experience', and 'interactive art' to an ever increasing degree. The second trend, often described in corporate circles as the 'many screen problem' refers to the notion of persistent, constantly aware interaction available through a myriad of portals and devices, from televisions and game consoles to mobile and hand-held devices. This has particular ramifications in that as work in IGM includes the hardware platform of the audience, it is unlikely that virtualization and/or 'the cloud' will form the totality of our workflow for the future: portions of content and experience may be driven by the cloud, but will be realized on a multitude of clients. As such, hardware and development environments are diversifying rather than consolidating. The third large-scale trend facing interactive media is the extension of this work beyond the screen entirely. This is already emerging through technologies such as the Wii, which extended control of on-screen media to the physical living room on a large scale, and future technological trends will capitalize on additional advances of this type. This has also been illustrated with geospatial events such as Pac-Manhattan, or other augmented reality games, that use the physical world as an integral part of the interactive experience. It is clear that, going forward, the traditional screen will define less of our overall work, as additional technologies and installation techniques are created.

Future Trends in IGM Curriculum

The future of the undergraduate IGM curriculum will be characterized by four major elements: 1) the continued stabilization and expansion of the GD&D and NMID curriculum at the undergraduate level, 2) an increased collaborative experience relative to the general education experience, 3) growth in the GD&D program, and 4) additional options and minors as opportunities for collaborative experiences unfold. Currently, the academic programs in IGM are recognized as national leaders in their respective areas. In all of the undergraduate programs, there are a few overall trends that are worth noting:

First, the department is likely to continue the "Core + Advanced" model at the undergraduate level. Both the BS GD&D and NMID programs are characterized by a well defined core that covers the first two years of study, followed by a highly flexible and modifiable experience in the upper division coursework. It is also the opinion of the author that this design means that the optimal point for degree-centric collaboration and multi-disciplinary work should not occur during the core experience, but rather at the advanced stage of study, in ways that correlate to models of industry production. Given the growth of the programs within the department, as well as the general nature of the program, it is clear that the IGM department will operate less like other departments in GCCIS and more like a traditional media production school. Students are drawn to the field by the masterworks of a few key studios and individuals, as well as by their own individual needs to express their ideas through this new and unique medium, but (much like the media industry), graduating students will find roles in a wide variety of fields that involve media-centric computing.

Academic practices synonymous with the creative arts will become ever more commonplace within IGM, including portfolio preparation and review, formal critique, collaborative ideation processes, etc., blended with and strengthened by traditional computing production techniques. There will be an increased need for opportunities for students to tie their general education studies to their major of study, and for involvement in entrepreneurship and business courses. Given the breadth of experiences that IGM students will be pursuing upon graduation, it follows that there be a broader set of experiences for undergraduates during their co-op experiences as well, and these should formally include 1) traditional experiences as described above, 2) unpaid experiences that utilize traditional intern programs or that target the non-profit sector, 3) participation in undergraduate research teams or funded projects, particularly those that are multi-disciplinary and/or multi-institutional, 4) presentation and/or publication of work in gallery showings and interactive installations, and 5) entrepreneurial activity and/or freelance work of sufficient depth as to demonstrate professional capability.

At the graduate level, the existing MS GD&D program will be revamped to support a more formalized “4+1” model for our undergraduates, and IGM is committed to developing a graduate program in New Media, likely in concert with CIAS as per the undergraduate model.

Future Trends in IGM Scholarship

Currently, the IGM academic programs are best known for their curriculum and dedicated focus to blending the theory and exploration of interactive media with practical production knowledge and experience. Over the next decade, IGM has a unique opportunity to expand its reputation of excellence in reference of its contribution to the overall field, based in part on the multi-disciplinary background of the faculty, and in part on the collaborative opportunities that will be present as the Institute moves forward in becoming an ‘innovation university’. As the scholarly activities of the IGM group continue to expand, the tension between science and art that characterizes the department will be explored within the crucible of experience: projects and works will be created along each of the lines above, both internal to the department and in collaborative fashion with partners around the world. *IGM has the potential to continue its current trajectory and become a national nexus for games and media research and dissemination, with both local and national partners.* Recent examples of such dissemination include our works at the RIT Innovation Festival and the Picture the Impossible ARG that involved a significant population across the city. It is important to note that works such as this are not done simply because it is “the thing to do politically” or for “local fame” – it is both necessary and productive for IGM to involve itself in such venues as significant local channels to a public audience. In the future, IGM will likely seek to expand such activities beyond the local sphere, to present works again on a national stage at the Game Developer’s Conference, Adobe MAX, SIGGRAPH and other appropriate venues not only as dissemination of scholarly work, but as a matter of public discourse and involvement. Over the next decade, RIT should capitalize on the national reputation of the programs within IGM, CIS, and CIAS through the formation and support of a national conference in this area that is hosted in the region.

Concerns for the Future

There are two primary barriers to the vision described above, which will need to be carefully managed and overcome as the department continues to grow and change over the next decade. Broadly speaking, these two barriers can be described as 1) an impending crisis of culture, coupled with 2) the very real prospect of a loss of identity in the face of unmanaged growth. Recently there have been significant issues of engagement and identity with faculty, staff and students relative to administrative models in the college, with direct effects on issues such as student advisement and interaction. Given the combined requests that faculty and staff meet the demands of the Institute on large-scale issues such as semester conversion coupled with the extreme growth curve of the department, it is critical that personnel feel well supported and appreciated relative to their contributions to the organization. We need to find ways to operate collaboratively such that the faculty, staff, and student body feel engaged. In certain instances such as this, we must balance needs for efficiency and scale with what will best fit the cultural make-up of the various ‘neighborhoods’ within the ‘city’ of the college. We must maximize service to the student body not only in terms of numbers, but with respect to quality of interaction and sense of involvement and community.

Conclusion

IGM stands poised for substantial success over the next two decades, and this success is predicated on the degree to which it can incorporate its own unique vision of computing in collaborative curricular and scholarly works both internal and external to the Institute. There are several up and coming trends that will continue to turn the field in exciting new directions for some time to come, and there will be increased national and international competition in terms of academic programs over the next few years. The strain of the growth and change over the next decade as the GD&D program solidifies and expands will be immense, but these upcoming years are also a platform for success, both academically and intuitively. The IGM department at RIT is unique in its vision, and if we can truly come together as a college and Institute as an ‘innovation university’ then IGM should have a unique and exciting role to play in that larger vision.