Executive Summary

The Working Group in Digital and New Media emerged as the result of funding awarded from the President’s 2009 call for collaborative and transdisciplinary white papers in his New Initiative funding program. The Working Group is dedicated to the support and development of digital and New Media projects across the disciplines on campus. Since 2009, the Working Group has developed laboratory space uniquely suited to collaborative digital and new projects developed across campus. To date these projects have involved the departments of Art and Design, Music, History, Languages, Instructional Design and Technology, English, Communication, and Computer Science, as well as the Chester Fritz Library, ND EPSCOR, and the ITSS High Performance Computing Cluster. Faculty and students have produced a dynamic and diverse group of projects ranging from video game, video shorts, robust digital archives, musical compositions, to online and gallery museum exhibitions and collections, and blogs. In the hyper-competitive realm of non-STEM funding, the collaborative infrastructure Working Group in Digital and New Media gives faculty in the arts and humanities a significant edge. The transdisciplinary work of the Working Group will continue to leverage the common space of the Working Group Laboratory to expand collaborative research and creative activities on campus.

The Working Group in Digital and New Media by the Numbers

Some numbers to support the role that the Working Group in Digital and New Media played in our research this past year:

- Approximate amount of grant money supported by Working Group members and infrastructure: $78,000
- Number of page views of web pages developed in collaboration with the Working Group: approx. 15,000
- Number of hours the Working Group lab was in use: 9248 hours over 32 weeks (289 hours per week)
- Number of images processed and published: 750
- Total number of pages from UND Theses on North Dakota History digitized: 427
- Approximate number of hours of digital video footage produced by Working Group members: 300 hours.
- Children introduced to animation in Mexico by working group members: 45
- Number of Gigabytes of data made available for viewing on the web: approx. 31.6 GB
- Number of students working in the lab over the Fall and Spring Semesters: 24.
- Projects supported by the Working Group Lab and faculty affiliated with the Working Group: 17
Overview of the Working Group’s Activities

The 2010-2011 academic year was an exciting time for the Working Group in Digital and New Media. The Working Group continued to extend its collaborative spirit across campus and forge new relationships that produced almost immediate results. The Working Group found new partners among the faculty in the Communications program, in North Dakota EPSCOR, and in the Department of Languages. By partnering with colleagues in these programs and departments, the Working Group added new projects to the bustle of activity in the Working Group lab in O'Kelly Hall.

The Working Group has become a hub of faculty - student collaborative research and creative activities as well. Students and faculty collaborated on producing a conceptually sophisticated and entertaining video game, creating new digital collections for the Chester Fritz Library, and composing cutting-edge digital music. These faculty - student projects often spilled over into other ongoing work in the lab. For example, students from the Department of Music composed music for the video game created by students from Art & Design and Computer Science.

The Faculty

The major collaborators in the Working Group at its inception reflect the dynamic and transdisciplinary nature of digital and new media studies. The group included Crystal Alberts and Kathleen Coudle-King (Department of English), Joel Jonientz (Department of Art & Design), Paul Worley (Modern and Classical Languages), Timothy Pasch (Communications/English), Michael Wittgraf (Department of Music), William Caraher (Department of History), Tom Stokke (Department of Computer Science), and Wilbur Stolt (Chester Fritz Library). Technical support came from Aaron Bergstrom of the High-Performance Computing Cluster. The Working Group benefited greatly from the contributions of these collaborators who brought their disciplinary competences to transdisciplinary teaching and research. At the same time, the Working Group both enhanced existing departmental programs and provided an opportunity for disciplinary knowledge to expand laterally into new areas. Recently Languages, Communication, and Art & Design have forged new alliances the share expertise and expand the reach of each program to new disciplines, places, and audiences.

The Lab

The Working Group lab provides infrastructure for a whole range of creative activities and research. In the past two years, the lab has provided key infrastructural support for members of the Working Group as they applied for external grants in the ultra-competitive world of non-STEM related funding. Bill Caraher (History) received both competitive external funding from the Dumbarton Oaks Research Library and private donor contributions to support the processing of archaeological data in the Lab. The Lab has also provided infrastructure for grants from the National Endowment for the Arts supporting Wilbur Stolt’s (Libraries) and Crystal Alberts’ (English) initiative to digitize the audio and video records of the UND Writers Conference. Works created on software located in the Lab contributed to Michael Wittgraf’s (Music) local recognition as the Northern Valley Arts Council Artist of the Year and his invitations to lecture and perform on his digital works in Portugal, Austria, and the Czech Republic. Joel Jonientz, (Art & Design), and Paul Worley (Languages), have worked together to create original animated works in Mayan language of the Yucatán peninsula in Mexico. A Collaborative Research
Planning Grant from the Office of Research helped further develop research infrastructure in the lab. The activities of the lab have supported $70,000 in grants and donations in the past year alone. These works, collections, and creative acts have made the Lab space a hub for influence on a global scale.

**Working Group Projects**

**UND Video Game (J. Jonientz, M. Witgraff, T. Stokke)**

During the 2010-2011 academic year, 11 students, both graduate and undergraduate, from three separate departments began to develop a multi-platform video game. Collaborating with faculty in the Working Group, students from the departments of Art & Design, Music, and Computer Science built a working prototype that, when completed towards the end of the 2011-2012 academic year, will be playable on both iPhone and Android mobile phones, Xbox consoles, and multiple other gaming platforms.

This game features a unique integration of aural cues into a 2D gaming environment with the result being a highly playable and challenging gaming experience. The project’s genesis came from an earlier Working Group collaboration between students and faculty from the departments of Computer Science and Art & Design. The concept was conceived, designed, and produced in the Working Group’s facility. Students working closely with and under the supervision of Working Group faculty members developed the artistic design and original music in a purely digital workflow.

**UND QR Quest (T. Pasch and N. Zaccardi)**

This digital game ran from August 19th through August 29th, 2011 and featured QR code technology. The game was created by Dr. Tim Pasch and Aerospace student Nicholas Zaccardi, and encouraged student involvement in UND Welcome Weekend events, interaction with technology, and exploration of services on campus. With over 60 locations, 171 UND students visited departments, offices, and online services 1290 times.
Tsikbal ich Maya/Speaking Maya (P. Worley, J. Jonientz)

In Fall 2010, Professors Worley and Jonientz were awarded a Collaborative Faculty Research Seed Grant for their project “Tsikbal ich maya” (Speaking Maya). With funds from this grant they travelled to Yucatán in summer 2011 to record Yukatek Maya oral storytellers and hold animation workshops with Maya children. During this time, they recorded one and a half hours of raw video and conducted two workshops in the towns of Santa Elena (attended by 10 children) and Dzan (attended by 35 children). Prior to travel, Jonientz animated a story to show the children at the workshops, and plans to base animation for the next story on drawings produced by children who participated in them. Upon returning, Worley and Jonientz began production of the website tsikbalichmaya.org, which is slated to be completed in December 2011. The site contains 5 Yukatek Maya stories subtitled in English and Spanish, as well as facing transcriptions/translations of these stories in a scrollable textbox. The next set of stories will be uploaded in June 2012.

UND Writers Conference Digital Collection
(C. Alberts, W. Stolt)

Dr. Crystal Alberts from the UND Department of English has brought her subject expertise and digital experience to producing UND Writers Conference Digital Collection (WCDC). Chester Fritz Library staff members have contributed their knowledge of digital collections creation and management. This year, the WCDC project was able to preserve and digitize approximately 180 hours of footage. To date, approximately 31 hours are available for public viewing, some with accompanying transcripts, via the UND Writers Conference Virtual Reading Room (http://www.undwritersconference.org/WCVirtual_Library.html). During the course of the last year, the digital collection has been publicly viewed nearly 1000 times.

The WCDC has received national attention receiving grant awards from the National Endowment for the Arts (NEA). In Spring 2011, The UND Writers Conference once again received NEA grant. Funds from this grant will go to digitizing additional video footage from the early conferences and will complement Alberts’ New Faculty Scholar Award. With this money, she was able to preserve and digitize an additional 16 hours of footage selected from the 12th UND Writers Conference (1982) through the 26th Annual UND Writers Conference (1995). This is the second NEA grant that this project has received: in Spring 2010, Alberts received a NEA “Access to Artistic Excellence, Audience Development” grant, which enabled the preservation and digitization of extant audio/video footage from the 1st Annual UND Writers Conference (1970) through the 6th Annual UND Writers Conference (1975).
Football Photos and Presidential Visits in the UND Digital Collections (C. Alberts, W. Stolt)

The Chester Fritz Library continues to add to the digital resources available to researchers. During the past year, Library’s Department of Special Collections added 100 football photographs from the UND Athletics Department Collection. Library staff created metadata for each image making it more accessible through searches.

The Library also worked with Dr. Crystal Alberts (English) to revise the JFK Digital Archive. Additional photographs and descriptions were added. The UND JFK Digital Archive was featured on iTunesU during January 2011.

Artistic Excellence, Audience Development” grant, which enabled the preservation and digitization of extant audio/video footage from the 1st Annual UND Writers Conference (1970) through the 6th Annual UND Writers Conference (1975). Included among the 20 hours of video and 60 hours of audio is 9 ½ hours of video footage featuring the Beat Generation, which was made freely available online in April 2011.

Digital Project for Native Languages (T. Pasch, P. Worley, J. Jonientz)

Additionally, Paul Worley (Languages) and Tim Pasch (Communications/English) are spearheading the Digital Project for Native Languages, focused on the production of web portals enabling computer-mediated language learning through alternate interfaces and technologies. These approaches include streaming video with multi-linguistic subtitling, the animation and time-based storytelling (developed by Jonientz) of local culture expressed in endangered ways of speech, and the production of 3D environments and rich virtual tours of isolated communities using Quicktime QTVR. Seed research funding for the project in preserving endangered Canadian First Nations Languages (Inuktitut in the Canadian Arctic, and Métis Mitchif in Manitoba and parts of North Dakota) combines with Dr. Worley’s work with Yukatek Maya and Professor Jonientz’s time-based animation to serve as the basis for an NSF proposal involved with preserving Native Languages. These joint projects represent only one small aspect of the highly innovative work coming out of the DNMWG.
EPSCoR Cyberinfrastructure  
(A. Bergstrom, C. Alberts, EPSCoR)

This year Digital Humanities was the focus of the EPSCoR conference on Cyberinfrastructure. Working Group member Aaron Bergstrom, High Performance Computing Specialist in the Computational Research Center, organized the conference and in collaboration with Dr. Crystal Alberts arranged for Dr. Geoffrey Rockwell, from the University of Alberta, to attend. Dr. Rockwell shared a wealth of networking and collaborative research techniques with the Working Group, not to mention the development of relationships with members of the TAPOR (Text Analysis Portal for Research) network representing six of Canada’s leading research universities.

The Working Group has become a hub of faculty - student collaborative research and creative activities.

Arts and Sciences Website Redesign  
(W. Caraher, T. Pasch, J. Jonientz)

The Working Group in Digital and New Media worked closely with the College of Arts and Sciences to improve their web design and include a series of new and innovative features. Working Group members, Tim Pasch, William Caraher, and Joel Jonientz, consulted with the College of Arts and Sciences for over four months and helped them to expand their web presence to social media outlets (Twitter and Facebook), to embed a dynamic collection of digital photographs on their site (via Flickr and Cooliris Live Wall), and create an aesthetically appealing layout for a new landing page. Aimee Abentroth, Kelicia Samuelson, and Tim Pasch worked on coding the website and numerous members of the faculty and staff have contributed content.
University of North Dakota Polis Digital Archaeology Project (W. Caraher)

Initiated by William Caraher in collaboration with Princeton Polis Expedition in Cyprus, this project is working to convert over 25 years of archaeological records into digital form. This will not only enable a team from the University of North Dakota, the University of Texas, Indiana University of Pennsylvania, and Boston University to analyze, interpret, and publish the results of these excavations but also ensure that the results of this fieldwork are widely available through the internet.

By the summer of 2011, information from over 20 notebooks from the project have been entered into a relational database and created the necessary tools to ensure that this data would synchronize with newly collected data on finds from a short study season on Cyprus in 2011. The project prepared digital plans of the site which also synchronize with the notebook data. The entire project was made transparent and interactive through blog and Twitter updates and a constant stream of YouTube videos.

To do the work both in Grand Forks and on Cyprus, we received a prestigious Project Grant from the Dumbarton Oaks Research Library and support from the Vice President of Research through a Arts and Humanities Seed Grant.

North Dakota History Theses Project (W. Caraher)

In a collaboration between public history students from the Department of History, the Chester Fritz Library’s Elwyn Robinson Department of Special Collections, and the Working Group in Digital and New Media, a team of students and faculty digitally scanned all available UND master’s theses written about the history of North Dakota prior to 1950 and made them available to the general public in digital form. These documents have not been widely available to groups and individuals outside of the academic world before this project and many of these theses were written before formal local, regional, and state archives were created. The work of the North Dakota Thesis project made these theses available as a collection, easily accessible from any location and free of charge.

Besides providing the interested public access to these materials, allowing them to research family, regional, and state histories, the theses also represent the history of the University of North Dakota. Presented as an online collection, they demonstrate the intellectual environment that existed
within the Department of History and the University of North Dakota during the first half of the 20th century, and can show how that environment evolved into what exists at UND today. Digital archives and museum displays have been growing in popularity, and this project can provide a blueprint for other departments and organizations.

Teaching Thursday and OID (W. Caraher, Anne Kelsch)

The Working Group continues to publish the Office of Instructional Development's blog "Teaching Thursday". Each year this blog receives thousands of individual page views and links from around the internet. The collaboration between OID and the Working Group ensures that the original content published on the blog receives national and international readership. We also work to promote the content of Teaching Thursday through managing their social media presence.

Music Composition, Computation, and Collaboration (M. Wittgraf, J. Jonientz)

The annual Music Department Student Composers Concert, March 31, 2011, featured two student works created in the Working Group space. One work was a prerecorded video with audio. The other featured prerecorded video, prerecorded audio, and live performers. This marks the second serious presentation of multimedia student art at the Student Composers Concert.

2010-2011 marks the first year that a student working with digital audio has been able to use software to create interactive computer audio. The audio studio has Max/MSP/Jitter installed on it, which enables live interaction between the computer, the computer user, and a performer. The software also enables interaction between video and audio elements of a work of art.

2010-2011 is the second consecutive year that a visual arts student has studied digital audio with Dr. Wittgraf. Last year it was an undergraduate student, this year an MFA student. This kind of interdisciplinary work is exactly what the Music Department and the Department of Art & Design had envisioned.
Reflective Objects (M. Wittgraf)

Dr. Wittgraf’s composition Reflective Objects, partially created in the Digital and New Media space, was performed at the 2011 Society for Electroacoustic Music in the United States at the University of Miami in January. The work was created using KYMA X and Logic Pro.

Fire, Flame (M. Wittgraf)

Dr. Wittgraf is in the process of completing his 2010 North Dakota Council on the Arts Individual Artist Fellowship, using KYMA X and Logic Pro to complete a work for the UND Concert Choir and interactive computer sound. The premiere of the new work, titled Fire, Flame, with text by Werner and Virgil, will occur during AY 2011-2012.

Kathy Coudle-King was granted a North Dakota Council on the Arts fellowship to complete the research portion of her multi-media project, OFF THE MAP.

Off the Map (Kathy Coudle-King, English)

In 2010-11, Kathy Coudle-King continued work on her multi-media project, OFF THE MAP. Originally granted a Bush Foundations Dakota Creative Connection grant to expand her one-act play, GHOST TOWN, in 2009, Coudle-King has been traveling around the state of North Dakota interviewing and video-taping people and landscape. In 2010, she was granted a North Dakota Council on the Arts fellowship to complete the research portion of the project, and Arts & Science awarded her a grant to bring the finished play/documentary to 4 rural towns in ND in spring, 2012. To date, she has been to fifty-plus towns with populations under 1,500 and has accumulated 24-hours of video. In the coming academic year she will edit down the footage with Mary Lizakowski, a professional editor employed at Altru.

Moviemaking Camp for Youth (Kathy Coudle-King)

In June 2011, Coudle-King directed the 6th Annual Moviemaking Camp for Youth, utilizing the Digital and New Media Lab. Students wrote screenplays using the lab’s Final Draft software and edited their short movies using Final Cut. There were 15 participants, ranging in ages 12-17. Eight short movies were produced and screened on the UND campus to a substantial audience of friends and family.