



A History of Computing at the University of Michigan

1946 Willow Run Laboratories

The University acquired the laboratories at Willow Run from the War Department, which maintained control of some of the facilities. Willow Run became the site for the first innovations in computing at the University of Michigan.



- *University of Michigan Board of Regents, Regents' Proceedings, 1945-1948 (Ann Arbor, MI: University of Michigan, n.d.), 364.*
- *John Walsh, "Willow Run Laboratories: Separating from the University of Michigan" Science 177, no. 4049 (August, 1972), 594.*
- *Ann Arbor News, August 28, 1953. Engineering Research Institute News 4, no. 6 (Dec. 1955).*
- *Conference presentation, MAD conference, Nov. 15, 1960, Box 1, Computing Center Records, Bentley Historical Library.*

1946 Statistical Research Laboratory established

The Statistical Research Laboratory was established in the basement of the Rackham Building to "provide consultation and statistical service for teaching and research units of the University...". Statistical analysis and calculation was a primary use of early computing technology. Cecil C. Craig was the first director. At the same time, Rackham also housed the Sorting and Tabulating Station.

As computing demand rose, Craig proposed a punch card machine purely for "Educational and Scientific Use." He notes "it is going to be necessary for any first class university not to lag too far behind in making for available for its research workers some of the much more efficient and versatile machines."

- *University of Michigan Board of Regents, Regents' Proceedings, 1945-1948 (Ann Arbor, MI: University of Michigan, n.d.), 473*
- *Statistical Research Laboratory, 1948, Box 7, Horace H. Rackham School of Graduate Studies Records, Bentley Historical Library.*

1948 Electronic Differential Analyzer built

Previous to the spread of digital computers, analog computers were primary instruments for data calculation and analysis at the University of Michigan. One of the earliest analog computers was used by the Aeronautical Engineering Department. The computer was called the Electronic Differential Analyzer, and was built at the UM.

- *Blanchard Hiatt, "A Faster Cratchit: The History of Computing at Michigan" Research News 27, no. 1, Division of Research Development and Administration, (January 1976), 4.*

Burroughs Project started

Arthur Burks, professor of Philosophy at the UM since 1946, and consultant for the Burroughs Corporation since 1949, began a research project investigating the logical design computers. Burks' research team, funded by Burroughs, developed designs and proofs for data-processing units. The project was funded until 1954.

- Blanchard Hiatt, "A Faster Cratchit: The History of Computing at Michigan" *Research News, Division of Research Development and Administration* 27, no. 1 (January 1976), 4.
- "Burroughs Project, 1950-1954," *Box 10, Logic of Computers Group Records, Bentley Historical Library.*

1951 Design starts for MIDAC Automatic Computer

The first digital computer developed at Michigan--the Michigan Digital Automatic Computer (MIDAC). In 1951, the design for the MIDAC began. The project was under the sponsorship of the Wright Air Development Center, United States Air Force and the Willow Run Research Center of the Engineering Research Institute, University of Michigan. The MIDAC became operational in 1953.

- *MIDAC: A New High-Speed Digital Computer Now at the Service of the National Defense, Science, and Industry, (Willow Run Research Center Engineering Research Institute University of Michigan) UMM-101. Engineering Research Institute News* 6, no. 6, (December 1955), 6.
- *MAD Conference presentation, Historical Files, Box 1, Computing Center Records, Bentley Historical Library.*

1953 MIDAC Automatic Computer Operational

The MIDAC became operational in August 1953. The computer was said to occupy two small rooms and required approximately 12 tons of refrigeration equipment to keep its 500,000 connections and tubes cool. The MIDAC was operated by Willow Run's Digital Computation Department under the leadership of John Carr III <http://www.merit.edu/about/history/article.php> remained the property of the Air Force until it was removed in 1958.

- [Link to the original "MIDAC: Automatic Computer" Manual. MIDAC automatic computer \(Ann Arbor, MI: Willow Run Research Center, Engineering Research Institute, University of Michigan n.d.\)](#)
- Wayne DeNeff, "U-M Puts New Electronic Brain Through Its Paces," *Ann Arbor News*, August 28, 1953.
- *MAD Conference presentation, Historical Files, Box 1, Computing Center Records, Bentley Historical Library.*

1953 MAGIC and EASIAC developed

MAGIC (Michigan Automatic General Integrated Computation) and EASIAC (Easy Instruction Automatic Computer) were automatic programming systems developed for the Michigan Digital Automatic Computer (MIDAC) under the direction of Professor John Carr III.

- Blanchard Hiatt, "A Faster Cratchit: The History of Computing at Michigan" *Research News, Division of Research Development and Administration* 27, no. 1 (January 1976), 5.
- Blanchard Hiatt, "A Faster Cratchit: The History of Computing at Michigan" *Research News* 27, no. 1 (January 1976), 5.

1953 Engineering Summer Conferences

In 1953, the College of Engineering begins a program of offering intensive short courses for graduate engineers and scientists. In 1959, the Ford Foundation became a co-sponsor of the program by providing a grant that would "encourage engineering faculty members to attend short intensive courses in advanced science and technology." [1]

The summer conferences included courses in Human Factors Engineering Vision and Visual Displays Biomechanics in Task Design Human Information Processing Concepts. Lecturers included University of Michigan faculty and visiting lecturers such as Dr. Stuart Card from the Xerox Corporation, Palo Alto, California. Engineering Summer Conferences were extremely well attended by engineers across the country and the program lasted over thirty years. [2]

- [1] *Letter to Thomas Cooney, The Ford Foundation from R.E. Carroll, College of Engineering, October 15, 1969, Box 53, College of Engineering Records, Bentley Historical Library.*

- [2] University of Michigan Board of Regents, Regents' Proceedings, 1957-1960 (Ann Arbor, MI: University of Michigan, n.d.), 1063
- [2, cont.] Industry Program Summer Conferences 1952-1970, Box 53, College of Engineering Records, Bentley Historical Library.

1956 Regents approve purchase of IBM 650

The IBM 650 "was the beginning of routine, large scale research and instructional computing at the University. Faculty members and students devised a language to maximize the machine's capabilities called GAT (Generalized Algorithmic Translator), which greatly increased the utility of the computer for the university community. The IBM 650 was installed in the Statistical Research Lab.

- "A Faster Crachit," *Research News* 27, no.1 (January 1976), 6-7.

1956 IBM Educational Contribution Program begins

Through the IBM Educational Contribution Program, IBM donated up to 60% of the monthly payment owed on a computer to the university, contingent on the university's agreeing to offer courses in scientific computation and data processing.

- "IBM Educational Contribution to Colleges and Universities for Data Processing Equipment," *Vendors IBM 640 1956-1959, Box 9, Computing Center Records, Bentley Historical Library.*

1956 Logic of Computers Group (LoCG) established

The Logic of Computers Group was established as a research collective of faculty with an interest in the relationship between logical formalisms, computers and natural systems. The group was funded by government research agencies and provided "more than half of the research support in the Department of Computer Science." The Group employed several senior researchers, including Dr. Richard A. Laing.

- *Arthur Burks to Charles Overberger, February 15, 1978, Logic of Computers Group 1962-1978, Box 5, Arthur Burks Papers, Bentley Historical Library.*

1956 Arthur Burks, director of the Logic of Computers Group

Before joining the UM faculty in 1946, Burks was one of the principal designers and a joint inventor of the Electronic Numerical Integrator and Computer (ENIAC) at the Moore School of Engineering, University of Pennsylvania from 1943 to 1946. Burks came to UM as an assistant professor in the Philosophy Department, eventually becoming full professor in 1954. Among his many activities at the university, he founded the Logic of Computers Group in 1956 and the graduate program in Communication Sciences in 1957.



- *Vita, Biographical Materials, Box 1, Arthur Burks Papers, Bentley Historical Library.*

1957 Communication Sciences graduate degree established

The Communication Sciences graduate degree program was formed within the College of Literature, Science and the Arts. The program had its roots in two research groups: the Phonetics Laboratory in the Dept. of Speech, and the Logic of Computers Group in the Dept. of Philosophy. The objective of the program "was to understand information processing and communication in both natural and engineered systems." Core curriculum offerings included automata theory, information and probability theory, and analog and digital computers. Arthur Burks was an integral player in developing the program, which enrolled three students in its first year. UM was the first to establish an interdisciplinary program in Communication Sciences, and the first program to award a Ph.D. in 1959, to John Holland. The course offerings first appear in the 1958-59 College of Engineering Announcement. Gordon Peterson served as chairman of the program until it became a department in 1965.

- *Arthur Burks, "Computer and Communication Sciences," 1979, Computer and Communication Sciences Department, Box 5, Arthur Burks Papers, Bentley Historical Library.*
- *University of Michigan Board of Regents, Regents' Proceedings, 1963-1966 (Ann Arbor, MI: University of Michigan, n.d.), 601*

Department of Electrical Engineering offers first digital computing courses

Courses initially offered included: EE232 Analog and Digital Computer Technology; EE235 Digital Computer Design Principles; EE238 Digital Computer Applications

- *College of Engineering Announcement, 1956-1957, Box 2, College of Engineering Publications, Bentley Historical Library.*

1959 Computing Center established

The Computing Center was established as a "research and service activity of the Graduate School" and was intended to "provide consultation and computing service for teaching and research units of the University."



- *University of Michigan Board of Regents, Regents' Proceedings, 1957-1960 (Ann Arbor, MI: University of Michigan, n.d.), 880.*

1959 Purchase of IBM 704

The IBM 704 was the first computer installed at Computing Center. President's Report, 1959-1960. Research News 27, no 1, (January 1976), Division of Research Development and Administration.

- *"Establishing the Computing Center," R.C. Bartels, Box 1, Computing Center Records, Bentley Historical Library.*

1959 Robert C.F. Bartels, director of the Computing Center

Robert Christian Frank Bartels was a professor of Mathematics when he was appointed the first director of the Computing Center. He came to the university in 1938, and was made a full professor in 1957. His research field was numerical analysis, which led him to be involved in many early computing projects, including a study of magnetohydrodynamics at the Oak Ridge National Laboratory in 1954. He served as director of the Computing Center for nearly 20 years, retiring in 1978.

- *University of Michigan Board of Regents, Regents' Proceedings, 1957-1960 (Ann Arbor, MI: University of Michigan, n.d.), 872.*
- *University of Michigan Board of Regents, Regents' Proceedings, 1978-1979 (Ann Arbor, MI: University of Michigan, n.d.), 15*

1959 Institute of Science and Technology founded

The Institute of Science and Technology was founded by the Board of Regents to provide organizational support for researchers in the sciences and engineering. The Regents' goal was to establish a center that would draw on university faculty expertise and that would cooperate with other private and public institutions in the state. Robert R. White served as director until 1960.



- *University of Michigan Board of Regents, Regents' Proceedings, 1957-1960 (Ann Arbor, MI: University of Michigan, n.d.), 979-80.*
- *University of Michigan Board of Regents, Regents' Proceedings, 1957-1960 (Ann Arbor, MI: University of Michigan, n.d.), 90.*

1959 Ford Foundation Grant

The Ford Grant awarded U-M with a \$900,000 three-year grant to "enrich engineering education." It was reported in the Board of Regents meeting that the president "anticipated that the conditions of the grant would make it possible for the University to become a center at which visiting faculty members from other institutions and predoctoral teaching interns may be instructed in the use of computing devices."

- *University of Michigan Board of Regents, Regents' Proceedings, 1957-1960 (Ann Arbor, MI: University of Michigan, n.d.), 1063.*

1960 UMES designed for IBM 704

The University of Michigan Executive System (UMES) was designed to "facilitate the running of a large number of programs rapidly and efficiently." The system was adapted from a system being used by General Motors by GM staff and Professor Bernard Galler. UMES was used until 1968.

- *University of Michigan Executive System, Box 16, Computing Center Records, Bentley Historical Library.*

1960 Willow Run Laboratories transferred to Institute of Science and Technology.

- *University of Michigan Board of Regents, Regents' Proceedings, 1957-1960 (Ann Arbor, MI: University of Michigan, n.d.), 150.*

1961 IBM709 installed in Computing Center

- *Research News 12, no. 5 (November 1, 1961), Office of Research Administration.*

1962 IBM 7090 installed

The IBM 7090 "was a transistorized, or solid-state, version of the 709."

- *Research News 27, no. 1 (Jan. 1976), 9.*

1962 Inter-university Consortium for Political Research (ICPR) founded

The ICPR was a partnership between the Institute for Social Research and twenty-one other universities to provide data support for research in the the social sciences. Warren Miller served as the first director. Now called the Inter-university Consortium for Social-Political Research (ICPSR), it provides access to world's largest archive of computer-based and instructional data for the social sciences.

- *Anne Frantilla, Social Science in the Public Interest: A Fiftieth-Year History of the Institute for Social Research (Ann Arbor, MI: Bentley Historical Library, 1998).*

1964 Department of Communication Sciences established

Dean Haber reported to the Regents that "an entirely new and revolutionary field of study is emerging from several disciplines, each of which has interest in information processing and adaptive systems".

- *University of Michigan Board of Regents, Regents' Proceedings, 1963-1966 (Ann Arbor, MI: University of Michigan, n.d.), 601-602.*

1964 Proposal for MERIT Network

The Merit Network proposal pushed for the creation of an educationally-focused computer network of academic institutions in Michigan. The proposal was written by Stanford Ericksen, the director of the Center for Research on Learning and Teaching, along with Karl Zinn, research scientist.

- *Mulcahy, John, "A Chronicle of Merit's Early History" (accessed on June 15, 2007)*
- *Topical Files, Box 15, Karl Zinn Papers, Bentley Historical Library.*
- *University of Michigan Board of Regents, Regents' Proceedings, 1966-1969 (Ann Arbor, MI: University of Michigan, n.d.), 88*
- *Merit Network News 2, no. 5 (November 24, 1987), 1, Box 5, Computing Center Publications, Bentley Historical Library*

1964 Interuniversity Communications Council founded by James G. Miller

The Interuniversity Communications Council, later called EDUCOM, was a non-profit organization devoted to the study and implementation of information technology in higher

education.

- James G. Miller "EDUCOM: Interuniversity Communications Council" *Science* 154, no. 3748 (October 28, 1966), 483.

1964 Ad Hoc Computing Advisory Committee formed

The Ad Hoc Committee, chaired by Donald Katz, advised Vice President Heyns and A.G. Norman on the use and implementation of computers at UM.

- *Heyns to Ad Hoc Computing Advisory Committee, June 5, 1964, Ad Hoc Computing Advisory Committee 1964, Box 1, Committee on Computer Policy and Utilization Records, Bentley Historical Library.*

1965 University Committee on Computer Policy and Utilization (UCCPU) established

The UCCPU grew out of the Ad Hoc Computing Advisory Committee. It provided university administrators with assessments of policies on computing, and investigated ethical concerns rising from the use of computers on campus. It was disbanded in 1985.

- *"Computer Policies for the University" Reporter: A Bulletin on University Affairs for Faculty and Staff, Vol. X, No. 16, (February 15, 1965), Box 2, University Committee on Computer Policy and Utilization Records, Bentley Historical Library*
- *"The University Committee on Computer Policy and Utilization," Computing Center Newsletter 1, no. 3 (February 22, 1971), 1.*

1965 Donald L. Katz, chairman of University Committee on Computer Policy and Utilization

Donald LaVerne Katz was a professor of Chemical Engineering at the University of Michigan, starting in 1936. He served as chairman of the Department of Chemical and Metallurgical Engineering from 1951 to 1962. His fields of expertise included underground storage systems and reservoir engineering. He played an active role in the promulgation and use of computers at the University of Michigan particularly in their application to engineering education.

- *"Computer Policies for the University" Reporter: A Bulletin on University Affairs for Faculty and Staff, Vol. X, No. 16, (February 15, 1965), Box 2, University Committee on Computer Policy and Utilization Records, Bentley Historical Library.*
- *Donald LaVerne Katz Papers, Bentley Historical Library.*

1966 IBM 360/67 installed

The IBM 360/67 was eight times faster than the previous IBM 7090. The 360/67, however, did not come with a time-sharing operating system. Due to the high demand for this functionality, Computing Center staff designed the Michigan Terminal System (MTS), a program to maximize the efficiency of the computer. The 360/67 was in operation until 1974.



- *"A Faster Crachit," Research News 27, no. 1 (January 1976), 20.*

1965 CONCOMP Project

Under the direction of Frank Westervelt, the CONCOMP Project or "Research in the Conversational Use of Computers," involved the design and testing of computer programs for graphical input of problem statements and graphical output of results.

- *"CONCOMP: Research in Conversational Use of Computers: Final Report," Research News 21, no. 4 and 5 (October/November 1970), 9.*

1966 Michigan Inter-University Committee on Information Systems formed

This committee was a research collaboration between the University of Michigan, Wayne State University, and Michigan State University.

- *Mulcahy, John, "A Chronicle Merit's Early History", (accessed on June 15, 2007); Also available in Topical Files, Box 15, Karl Zinn Papers.*

- "MICIS/Merit Relationship," Box 1, Merit Network, Inc. Records, Bentley Historical Library.
- University of Michigan Board of Regents, Regents' Proceedings, 1966-1969 (Ann Arbor, MI: University of Michigan, n.d.), 230-231.

1966 MAD Michigan Algorithm Decoder

Computing Center staff developed an easy-to-use computer language and computer controlling program called MAD Michigan Algorithm Decoder. The programming language was designed to handle a very large number of "relatively small student problems" quickly and efficiently. The Department of Defense Advanced Research Projects Agency provided \$1,300,00 for the development of the language.

- University of Michigan Board of Regents, Regents' Proceedings, 1966-1969 (Ann Arbor, MI: University of Michigan, n.d.), 1283.

1966 Michigan Educational Research Information Triad formed

MERIT was formed out of the Michigan Inter-university Committee on Information Systems. It's mission was to research the effects and possibilities of connecting large research universities together by means of a computer network.



- University of Michigan Board of Regents, Regents' Proceedings, 1966-1969 (Ann Arbor, MI: University of Michigan, n.d.), 88.

1967 The Michigan Terminal System is developed

MTS worked as a timesharing system for use on the University's IBM 360/67, allowing for efficient multi-user access to computation. The system was designed by senior staff member Michael Alexander, and was used by other universities in the U.S. and abroad.

- "Necessity, The Mother of Invention: MTS and the Data Concentrator," Computing Center Newsletter 1, no. 5 (March 8, 1971), 1.

1968 Dept. of Computer and Communication Sciences formed

The Department of Communication Science's was renamed the Department of Computer and Communication Sciences. The Department was within the College of Literature, Science and Arts.

- University of Michigan Board of Regents, Regents' Proceedings, 1966-1969 (Ann Arbor, MI: University of Michigan, n.d.), 1172.

1970 Use of minicomputers on campus increases

Campus computing use slowly moved away from the mainframe model as departments and staff began to acquire their own "minicomputers" (also referred to as "microcomputers").

- Excerpts from "Minicomputer Report," Minicomputer Report Correspondence 1977, Box 1, University Committee on Computer Policy and Utilization Records, Bentley Historical Library;
- "Minicomputer Survey," Minicomputer Survey 1975, Box 3, University Committee on Computer Policy and Utilization Records, Bentley Historical Library.

1971 First edition of the Computing Center Newsletter

- Computing Center Newsletter 1, no. 1, January 7, 1971, Computing Center Publications, Bentley Historical Library.

1971 Dept. of Electrical Engineering becomes Dept. of Electrical and Computer Engineering

- University of Michigan Board of Regents, Regents' Proceedings, 1969-1972 (Ann Arbor, MI: University of Michigan, n.d.), 1018.

1971 UM and Wayne State connect their computing centers

via MERIT

- *University of Michigan Board of Regents, Regents' Proceedings, 1969-1972 (Ann Arbor, MI: University of Michigan, n.d.), 1416.*

1971 **Computing Center moves into new building**

The Computing Center moved from the North University Building (NUBS) into a new building on the corner of Beal Ave. and Glazier Way. The new building featured elevated (false) floors that allowed the computer cables, electrical services and over 900 telephone lines to be safely tucked inside.

- *University of Michigan Board of Regents, Regents' Proceedings, 1969-1972 (Ann Arbor, MI: University of Michigan, n.d.), 195.*
- *"The Great Leap Forward," Computing Center Newsletter 1, no. 2 (January 21, 1971), 1.*
- *"Computing Center Moves from (NUB) North University Building to new building on North Campus," Computing Center Newsletter 1, no. 14 (October 4, 1971), 1-2.*



1972 **CRISP Registration Project**

The Computer Registration Involving Student Participation (CRISP) concept formed through UM computer course, CSS673, taught by Professor Bernard Galler. The class developed the concept for a computerized system by which they could enroll in classes. CRISP was initiated as the official method of course registration in 1975.

- *Project Definition of CRISP, 1973, Box 17, Office of the Registrar, Bentley Historical Library.*
- *Chastity Pratt, "New CRISP: Registration's just a touch-tone away," The University Record 50, no. 14 (December 12, 1994), 3.*



1972 **UM ceases formal relationship with Willow Run Laboratories**

The State Legislature establishes the Environment Research Institute of Michigan (ERIM) and all Willow Run personnel, facilities, and projects disassociate from the University of Michigan, and transfer to this organization.

- *University of Michigan Board of Regents, Regents Proceedings, 1969-1972 (Ann Arbor, MI: University of Michigan, n.d.), 21.*
- *University of Michigan Board of Regents, Regents' Proceedings, 1969-1972 (Ann Arbor, MI: University of Michigan, n.d.), 1348.*

1974 **IBM 370/168 installed**

The IBM 370/168 replaced the IBM 360/67, which had become overloaded. The new IBM was installed at the end of fall term 1974. The 370/168 was, on average, six times greater than that of a single processor on the 360/67. "Michigan installed one processor for the 370/168, increasing the CPU capacity by three.

- *Computing Center Newsletter 4, no. 6 (May 22, 1974), 1.*

1975 **First Conferencing software introduced to UM community**

Ph.D. student Robert Parnes developed a conferencing software program called CONFER as "an alternative to face-to-face-communication" for partial fulfillment of his doctoral degree in Philosophy. The first CONFER was called K4HS:RP.Confer. Subsequent confers included ARCH:FORUM, and the first student CONFER was called MEET:STUDENTS. CONFER was widely used by faculty, students and staff until 1999.

- *Robert Parnes, "Learning to Confer: the Interplay of theory and practice in Computer Conferencing," Box 1, Karl Zinn Papers, Bentley Historical Library.*

1975 **Purchase of Amdahl 470V/6 mainframe**

The new Amdahl model was used with MTS. This computer was twice as fast as the previous

IBM 370/168 mainframe.

- [University of Michigan Board of Regents, Regents' Proceedings, 1972-1975 \(Ann Arbor, MI: University of Michigan, n.d.\), 1292.](#)
- ["Amdahl 470V/6 Accepted" Computing Center Newsletter 5, no. 17 \(November 5, 1975\), 1.](#)
- ["A Faster Crachit," Research News 27, no. 1 \(Jan. 1976\), 21.](#)



1978 **Aaron Finerman appointed director of Computing Center.**

Aaron Finerman came to the University of Michigan as director of the Computing Center and professor of Computer and Communication Sciences in 1978 from SUNY Stonybrook. He served as director of the Computing Center until 1986, and became professor emeritus in 1990. He continued to teach for several terms after his retirement.

- [University of Michigan Board of Regents, Regents Proceedings, 1975-1978 \(Ann Arbor, MI: University of Michigan, n.d.\), 1072.](#)
- ["New Director Announced," Computing Center Newsletter 8, no. 13 \(September, 1978\), 1](#)
- [Boxes 3 and 4, Aaron Finerman Papers, Bentley Historical Library.](#)

1981 **MESSAGE System installed in MTS**

The "message system may be used to send messages from one user to another user. There are commands to compose and send message, to retrieve and reply to messages, and to display the status of existing messages." Users entered the system by the \$MESSAGE command.

- [Computing Center Newsletter 11, no. 14 \(July 15, 1981\), 1.](#)

1981 **Conference on Easier and More Productive Use of Computers**

The Conference on Easier and More Productive Use of Computers was co-sponsored by the Association of Computing Machinery (ACM), the Special Interest Group on the Social and Behavioral Science of Computing (SIGSOC), and ICPSR. It was held at UM in May 1981. The conference focused on the quality of human interfaces and characteristics of database applications.

- [Computing Center Newsletter 11, no. 4 \(Feb. 18, 1981\), 1.](#)

1982 **Purchase of the Amdahl 5860**

The Computing Center scheduled the purchase the Amdahl 5860 for the fall of 1982, to replace the Amdahl 470/ V/8. The new system included 24 megabytes of main memory. The University of Michigan was the first to receive a production model of this mainframe.

- [Computing Center Newsletter 11, no. 15 \(August 12, 1981\), 3.](#)
- [Computing Center Newsletter 11, no. 19 \(October 14, 1981\), 1.](#)

1982 **Industrial Technology Institute founded**

The Industrial Technology Institute "serves as a link between academic research and industrial implementation in collaborative ventures with industry." The Institute was a publicly supported, not-for-profit corporation. The UM provided facilities for the center during its first few years and then the Institute built a facility on Baxter Road in 1986.

- [University of Michigan Board of Regents, Regents' Proceedings, 1981-1984 \(Ann Arbor, MI: University of Michigan, 1915\), 956.](#)

1983 **Business School Computing Services offers alternatives to MTS**

Through seminars and demonstrations from different vendors on personal computer usage, the Business School began to encourage the use of personal computers, marking the gradual switch from MTS.

- *"Personal Computer Seminars and Demonstrations to be Given," Computing Center Newsletter 13, no. 5 (March 7, 1983), 5.*

1983 **Pilot of Mailnet Project**

UM piloted the Mailnet project, which linked the electronic mail systems in place at several universities" Mailnet will create a technically sound, intercampus electronic mail system for use by scholars, researchers, faculty, and administrators." (Computing Center Newsletter, 1982) The system functioned using the \$MESSAGE commands.

- *"Mailnet: Inter-University Electronic Mail Service," Computing Center Newsletter 12, no. 20 (November 10, 1982), 1*
- *"Network Electronic Mail Service Now Available," Computing Center Newsletter 13, no. 15 (September 19, 1983), 1.*

1983 **Computer Aided Engineering Network initiated**

CAEN began as part of a plan to expand and intensify the research activities of the College of Engineering in technology management, computer aided engineering and communication.

- *University of Michigan Board of Regents, Regents' Proceedings, 1981-1984 (Ann Arbor, MI: University of Michigan, n.d.), 671.*

1985 **Information Technology Division is created**

The Regents and Vice Provost Van Houweling realized the University's need for an administrative structure to support their growing implementation of information technology. The Information Technology Division was formed as an consolidation of several existing technology departments, including the Computing Center, the Office of Administrative Systems, the Center for Information Technology Integration, and the Office of Instructional Technology.

- *University of Michigan Board of Regents, Regents' Proceedings, 1984-1987 (Ann Arbor, MI: University of Michigan, n.d.), 370-72*
- *"Organization Charts, 1985-1991," Central Files, Box 1, Information Technology Division Records, Bentley Historical Library.*
- *"Strategic Planning Committee: 1985," Central Files: Committees (ITD), Box 3, Information Technology Division Records, Bentley Historical Library.*

1984 **Douglas Van Houweling First Vice Provost for Information Technology.**

Van Houweling was responsible for the University's strategic direction in information technology in a quickly changing computing environment. In addition to his position as Vice Provost for Information Technology, he was also chairman of the board of MERIT, Inc. when the NSF awarded MERIT the responsibility for management of NSFNET in partnership with IBM, MCI and the Michigan Strategic Fund in 1987. He stepped down as Vice Provost for Information Technology in 1997 when he became the president ofUCAID, a consortium of more than 100 universities working with corporate partners and federal agencies to develop Internet2.



- *University of Michigan Board of Regents, Regents' Proceedings, 1984-1987 (Ann Arbor, MI: University of Michigan, n.d.),126.*
- *Nancy Ross-Flanigan, "Van Houweling to Head Advanced Internet Development Effort," The University Record 53, no. 7 (October 15, 1997), 4.*
- *Internet2*
- *Profile at the UM School of Information*

1984 **CCS moves to the College of Engineering**

The Department of Computer and Communication Sciences ended its affiliation with the College of Literature, Science and the Arts and merged with the Department of Electrical and Computer Engineering to form the department of Electrical Engineering and Computer Sciences (EECS), part of the College of Engineering.

- *University of Michigan Board of Regents, Regents' Proceedings, 1984-1987 (Ann Arbor, MI: University of Michigan, n.d.), 958.*

1985 **Regents take initiative to provide all UM students with**

computer access.

- *University of Michigan Board of Regents, Regents' Proceedings, 1984-1987 (Ann Arbor, MI: University of Michigan, n.d.), 301-302.*

1985 Graduate Library develops GEAC

GEAC was the library's first online circulation system available through UMNNet. This system contained only the last 8 years of acquisitions and the card catalog remained the "authoritative source" on library holdings. It functioned using the message command: \$RUN UNSP:NET PAR-UMLIB.

- *Computing Center Newsletter 15, no. 11 (May 20, 1985), 1.*

1985 Dr. Richard Dougherty proposes fully automated library system

Dr. Richard Dougherty outlined to the Board of Regents the plan to develop a fully automated library system. Dougherty noted that "when the system becomes a reality, it will allow anyone who has a microcomputer, personal computer to computer terminal that is linked into the campus computer system to access the information in the library's data base."

- *University of Michigan Board of Regents, Regents' Proceedings, 1984-1987 (Ann Arbor, MI: University of Michigan, n.d.), 467-478.*

1985 Cognitive Science and Machine Intelligence Laboratory established

The laboratory was founded to "further the research and training opportunities in areas of cognitive science and machine intelligence." Professor Gary M. Olson served as director. In 1988 the Regents approved a project to build a Collaboration Technology Suite for the Laboratory in the Business School. Box 1, Cognitive Science and Machine Intelligence Laboratory Records.

- *University of Michigan Board of Regents, Regents' Proceedings, 1988-1989 (Ann Arbor, MI: University of Michigan, n.d.), 106.*

1985 ResComp

In September 1985, a pilot program called ResComp was started in one residence hall. By January 1986, it had expanded to all residential living halls. The primary focus of the program was "to provide educational services for students living in the UM residence halls." The project included a "research program aimed in part at identifying students' computing needs, expectations, and experiences."

- "New Residence Halls Computing Program," *Computing Center Newsletter 10, no. 10 (May 19, 1986), 7-9*
- "Getting into Computing: Where the Freshmen Are," *U-M Computing News 2, no. 1 (January 5, 1987), 2*
- "Proposal for Study of Residential Hall Computing Project," *Martha S. Feldman, not dated, Box 60, Information Technology Division Records, Bentley Historical Library.*

1985 Computing opportunities expanded

The Information and Technology Division used a donated mainframe computer to run the UB MTS system and provide computing accounts to all UM Students, faculty, and staff for the first time.

- "Computing Opportunities Expand at U-M," *Computing Center Newsletter 15, no. 15 (September 2, 1985), 1*

1986 Computing accounts available to all regular staff members

This new service provided staff members with access to common computing resources like

email and word processing.

- *Computing Center Newsletter 16, no. 10 (May 19, 1986), 8.*

1986 **IBM 3090-400 approved**

Regents approve the purchase of the IBM 3090-400 for the Computing Center.

- *University of Michigan Board of Regents, Regents' Proceedings, 1984-1987 (Ann Arbor, MI: University of Michigan, n.d.), 489.*

1986 **Carolyn Autry-Hunley appointed director of The Computer Center**

Carolyn Autry-Hunly replaced Aaron Finerman as Director of the Computing Center.

- *Computing Center Newsletter 16, no. 12 (June 16, 1986), 1.*

1986 **Center for Information Technology Integration established.**

The Center was formed for the purpose of "advanced development and research projects, in partnership with external sponsors" aimed to enhance the University's information technology environment.

- *University of Michigan Board of Regents, Regents' Proceedings, 1984-1987 (Ann Arbor, MI: University of Michigan, n.d.), 489*

1987 **MacTruck Sale offers discount prices on Macintosh Plus Computers**

The first Mac Truck sale was held February 7 and 8 at the old main hospital. The MacTruck weekend was the largest delivery ever made by Apple to one location. It was also the largest single distribution of any personal computer.

- *"MacTruck is Coming!" U-M Computing News 2, no. 2 (January 19, 1987), 9.*
- *U-M Computing News 2, no. 5 (March, 1987), 7.*

1987 **NSFNet run by MERIT**

The MERIT Network, under the direction of Eric Aupperle, was awarded oversight of the National Science Foundation's NSFNet. The network would connect thousands of researchers in the sciences and technology at seven regional networks to six NSF supercomputer centers, allowing them to share data, exchange graphics and simulations, and enhance their ability to collaborate. The NSFNet contract resulted in the expansion of MERIT's facilities at the University of Michigan's Computing Center and in the hiring of many more employees, including a 24 hour operations staff.

- *"Merit Receives NSFNET Award," Merit Network News 2, no. 5 (November 24, 1987), 1.*
- *"The Intertwining Nature of Merit and NSFNET," Merit Network News 3, no. 1 (March 1988), 1.*

1988 **James J. Duderstadt President of University of Michigan.**

James J. Duderstadt, 11th president of the University of Michigan, came to the university as an assistant professor of nuclear engineering in 1969. He was known for his "infectious confidence in the ability of educated people to build and control their own futures." His vision for the future was dominated by three elements: knowledge, globalization and pluralism. He was the first University president to bring a personal computer into the Office of the President, and strategically laid the groundwork to ensure that the University was "wired" for the 21st century.



- *Mary Jo Frank, "UM presidents have weathered wars, recessions, unrest to keep institution in leadership position," The University Record 52, Special Issue (November 14, 1996), 4-6.*
- *James J. Duderstadt Papers, Bentley Historical Library.*

Artificial Intelligence Seminars

A series of seminars on artificial intelligence were held by the Department of Electrical Engineering and Computer Science.

- *U-M Computing News 2, no. 6 (March 16, 1987), 3.*

1988 Institutional File System Project (IFS) implemented

A "transparent" file transfer system, dubbed IFS was designed to facilitate the transfer and sharing of files between campus computers. IFS was developed with IBM and was implemented by the Center for Information Technology Integration, part of ITD Research Systems. The project "provided file storage and file services to all workstations on campus and was anticipated on more than 30,000 machines. The IFS is a first of its kind system, one that could be used as a model by other universities and businesses whose computing systems link heterogeneous mainframes, minicomputers, and workstations running many different operating systems."

- Roger Sutton, "Communication Between Different Machines Eased with IFS," *The University Record 44, no. 14, 1988 (December 12, 1988), 6.*
- Roger Sutton, "UM, IBM begin multimillion dollar three-year project to enhance ease of data exchange in computer networks," *University of Michigan News Service, August 8, 1988*
- *University of Michigan Board of Regents, Regents' Proceedings, 1991-1992 (Ann Arbor, MI: University of Michigan, n.d.), 203.*
- "Innovative File Server to Be Developed at U-M," *U-M Computing News 3, no. 14 (August 15, 1988), 6.*

1988 MIRLYN system unveiled

UM Library System put its card catalog into the Michigan Research Library Network (MIRLYN), an electronically searchable card catalog. The system was officially dedicated September 20, 1988. Robert Warner, interim director of the UM library called the arrival of MIRLYN "one of the most important developments in the history of the university library." The conversion of the card catalog was completed in June 1991. The system initially ran on the computing center's IBM 3090-600E available through Merit/UMNet. The effort was funded by a grant from the W.K. Kellogg Foundation, and UM was "one of the few major research libraries to have completed record conversion for its online public catalog" at the time of its release. The library was also the "only large research library known at this time to have completed conversion of its holdings for Chinese, Japanese, Korean as well as Middle East, South Asia and South East Asia program materials."



- Loup, J., and Yocum, P. (2001). *University of Michigan Libraries*. In D. H. Stam (Ed.), *International dictionary of library histories (Vol. 2)*. Chicago: Fitzroy Dearborn
- Kate Kellog, "MIRLYN Puts U-M, Other Library Holdings at User's Fingertips" *The University Record 44, no. 14 (December 12, 1988), 19.*
- "UM library unveils new cataloging system", *Ann Arbor News, September 21, 1988 U-M Computing News 2, no. 15 (September 7, 1987).*

1988 LIBTEXT

UMLIBTEXT project, under the direction of John Price-Wilkin, was a pioneering library project to digitize literary, philosophical and historical texts.

- *Computing Center News, Vol. 6, No. 5 (March 4, 1991).*

1989 Angell Hall made into computing site

The Angell Hall Courtyard, or "Fishbowl" was converted into a computing center as part of the Regent's 1985 plan to grant all students computer access. The new computing cluster, housing 330 computers, was one of the largest single installations of computers in the country.



- *University of Michigan Board of Regents, Regents' Proceedings, 1984-1987 (Ann Arbor, MI: University of Michigan, n.d.), 1229.*
- Mary Jo Frank, "Clusters House 1, 800 Public Workstations," *The University Record 45, no. 7, (October 16, 1989), 11.*

Installation of Fiber Optic Network.

The Information Technology Division began installation of a fiber optic network as the first phase of a high-speed computer network. The Network acted as a campus-wide backbone network, supporting the widely used Internet TCP/protocols. The network was a "Proteon ProNET-80 high-performance, fiber optic token ring." Transmission speed for the network was reported to be 80 million bits per second.

- *"New Fiber Optic Network for U-M," U-M Computing News 4, no. 4 (February 20, 1989), 3.*
- *"Campus Fiber Network Up and Running," U-M Computing News 4, no. 14 (September 18, 1989), 5.*

1993 Proposal for a strategic data plan.

The Executive Computing Committee (ECC) charged the Strategic Data Planning (SDP) project committee with developing a comprehensive strategy to integrate University administrative data systems and to streamline business processes across organizational boundaries.

- *Text of the Strategic Data Plan*
- *"Strategic Data Plan," March 1995, Box 3, M-Pathways Project Records, Bentley Historical Library.*

1994 Official phase-out of MTS begins

- *"Units should start planning for move from MTS" The University Record 49, no. 20, (February 14, 1994), 1*

1994 Touch-tone CRISP introduced

CRISP, a course registration system originally designed in 1972, began to use technology which allowed students to register for courses through a touch-tone telephone. The system had been developed and implemented at other American universities.

- *Chastity Pratt, "New CRISP: Registration's just a touch-tone away" The University Record, December 12, 1994"*
- *"U" To Begin Phone Registration This Fall," The Michigan Daily 104, no. 135 (August 3, 1994).*

1994 Wolverine Access designed and released.

The Wolverine Access program, developed by ITD, the Registrar's Office, and the Wolverine Access Development Team allowed student access to grades, class schedule, academic report, availability of classes, and account statements. Eventually released online in 1996, it was first available via client server using Macintosh machines at campus computing sites.

- *Wanda Moore, "Wolverine Access on the Web Lets Students See Grades Immediately" The University Record 51, no. 30, (April 23, 1996), 5.*
- *Frank C. Lee, "Computer Program Accesses Grades" The Michigan Daily 104, no. 127 (September 20, 1994);*

1995 Program for the Study of Complex Systems

The Program for the Study of Complex Systems was established in 1995. Robert Savit served as the first director, and founding members included Arthur Burks, Bob Axelrod, Michael Cohen, and John Holland. The goals of the program included encouraging research in complex adaptive systems and exploring the boundaries and overlaps between the complex systems approach and more traditional approaches. The program became the Center for the Study of Complex Systems in 1999 under the directorship of Carl Simon. In July 2005, the center became a part of the College of Literature, Science and Art.

- *Center for the Study of Complex Systems Website (last viewed April 22, 2008)*

1995 Douglas Van Houweling appointed Dean for Academic Outreach.

- "ITD executive director sought" *University Bulletin* 51, no. 23 (February 27, 1996).

1995 **Strategic Data Planning final report published.**

The SDP report identified more than 55 data and processing projects and 12 projects focused on technical infrastructure improvements operating throughout the university. It recommended that University should integrate databases to facilitate sharing data across organizational boundaries.

- [Text of the Strategic Data Plan](#)
- [Strategic Data Plan, March 1995, Box 3, M-Pathways Project Records, Bentley Historical Library.](#)

1996 **Jose Marie-Griffiths, Chief Information Officer.**

Jose Marie-Griffiths came to UM from the University of Tennessee, where she was a professor in the field of Information Sciences. As the new director of the Institutional Technology Division, and the university's Chief Information Officer, Griffiths was responsible for providing strategic planning for technology initiatives at the university, as well as establishing collaborations with schools and administrative departments across the community.



- ["Griffiths named as new ITD executive director, CIO," *The University Record* 51, no. 36 \(July 9, 1996\), 1](#)

1996 **Media Union opens**

The Media Union opened in the Summer of 1996. The new 250,000 square foot building on North Campus was built to house a variety of multimedia programs such as virtual reality labs, digital libraries, and audio/visual performance and design studios. The building also currently houses the Art Architecture and Engineering Library. In 2003 the Media Union was named for James and Anne Duderstadt in honor of "Jim Duderstadt's deep interest in fostering creativity, engaging with new forms of technology, and developing new ways of learning." (University Record)

- ["Media Union Will Be A Key to State of Michigan's Future" *The University Record*, June 25, 1996.](#)
- [Nancy Connell, "Media Union Named for the Duderstadts," *The University Record* 59, no. 13, \(November 24, 2003\), 1.](#)

1996 **MTS is officially retired from the UM computing system.**

- ["MTS services will end July 1," *The University Record* 51, no. 4 \(September 25, 1995\).](#)

1996 **School of Information founded.**

The School of Information and Library Studies was rechartered as the School of Information (SI), broadening its mission to study the role of information in computation, cognition, communication and community.

Daniel Atkins served as the first dean of the newly named school until 2000, when John L. King was appointed.



- [University of Michigan Board of Regents, Regents' Proceedings, 1995-1996 \(Ann Arbor, MI: University of Michigan, n.d.\), 321.](#)

1996 **M-Pathways Project initiated.**

The M-Pathways Project was charged with the design and implementation of new administrative information systems. Laura Patterson, Project Manager for M-Pathways stated, "what we are talking about is changing the way the University conducts its administrative processes so that they better serve our students, staff, faculty and citizens of the state."

- [The University Record 51, no. 18 \(January 23, 1996\), 1.](#)
- [Gretchen Weir, "M-Pathways, the 'invisible project,' revealed to U community" *The University Record* 52, no. 2 \(September 10, 1996\), 3.](#)

UM signs \$3.5 million contract with PeopleSoft, Inc.

The PeopleSoft contract was part of the university's interest in streamlining financial, human resources, and student information systems, as well as concern about the impact of Y2K on current systems. "The University's effort to find a new system was hastened by the fact that many of its current systems will not operate correctly in the year 2000 because of the way they store dates". (Record, pg. 11).

- *"New system will make records easier, faster to access," The University Record 51, no. 18 (January 23, 1996), 1.*

1996 Laura Patterson appointed Project Manager of M-pathways.

Laura Patterson, the University Registrar, was appointed Project Manager of M-Pathways, the UM effort to implement computerized administrative systems. In addition to the project team, Anderson Consulting, Inc. supplied additional resources, particularly guidance in "change management".



- *Gretchen Weir, "Patterson resigns to lead M-Pathways Project" The University Record 52, no. 2 (September 19, 1996), 5.*
- *"Anderson Consulting: Method 1, 1996," Box 2, M-Pathways Project Records, Bentley Historical Library.*

1997 M-Pathways Asset Management module released.

The Asset Management module release allowed information on university equipment and property to be shared between departments and units, making tracking of items easier and more efficient. This module was first released within the UM Hospital System, and was then made available to the greater campus community.

- *"M-Pathways project will help answer "Where is that centrifuge?" The University Record 51, no. 7 (October 15, 1996), 5.*

1997 Regents call for Y2K plan.

In response to the Regents' request, the Year 2000 Information Campaign formed. Led by Jose Marie-Griffiths, the group raised campus awareness about possible consequences of Y2K, and helped to alleviate potential problems caused by the millennium.

- *University of Michigan Board of Regents, Regents' Proceedings, 1997-1998 (Ann Arbor, MI: University of Michigan, n.d.), 108.*
- *University of Michigan Board of Regents, Regents' Proceedings, 1997-1998 (Ann Arbor, MI: University of Michigan, n.d.), 334.*
- *Jane R. Elgass, "Millennium Bug: Much Still To Be Done, Griffiths Says," The University Record 54, no. 7 (October 21, 1998), 7.*

1998 M-Pathways Student Administration module released.

The Student Administration module included the Financial Resources System, and Recruiting and Admissions systems.

- *"M-Pathways up and running" The University Record 53, no. 35 (22 July, 1998), 4.*
- *"M-Pathways Admissions System: Attracting the best class yet," The University Record 54, no. 6 (October 14, 1998), 5.*

1998 Life After M-Pathways started.

"Life After M-Pathways" helped the university to transition from the project phase to the organizational phase of the M-Pathways program.

- *"M-Pathways put lessons learned to use" The University Record 55, no. 8 (October 25, 1999), 15.*

2000 Michigan Administrative Information Services is created

The Michigan Administrative Information Services was created in order to provide support to schools and units for new information technology systems, such as M-Pathways.

- *"Michigan Administrative Information Services (MAIS) Internal Communications, July-November, 2000," Box 2, M-Pathways Project Records.*

2000 **Laura Patterson, Vice President for Administrative Systems (ongoing).**

Patterson was appointed Vice President for Administrative Systems after serving as University Registrar from 1993-1996, and director of the M-Pathways program since 1996. In her new position she would direct Michigan Administrative Information Services, an organization formed to help administrative units utilize new information technology after M-Pathways.

- *"Patterson named associate VP of administrative information systems" The University Record 56, no. 4 (September 25, 2000).*

2000 **All remaining M-Pathways student modules released**

The final module to be released, student business was completely rolled out, with the exception of the Degree Audit module.

- *University of Michigan Board of Regents, Regents' Proceedings, 1999-2000 (Ann Arbor, MI: University of Michigan, n.d.), 319.*

2000 **New Wolverine Access released**

With the implementation of a new form of Wolverine Access, students were able to register for classes online for the first time.

- *Rebecca A. Doyle, "Online Registration via M-Pathways Going Smoothly," The University Record 55, no. 35 (July 3, 2000).*

2001 **Human Resources system released by PeopleSoft.**

- *Linda Hancock Green, "July 1 Targeted for Switch of HR Processes to M-Pathways" The University Record 56, no. 18 (January 22, 2001).*

2001 **Information Revolution report**

President Bollinger appointed Stephen Director, dean, College of Engineering and John King, dean, School of Information to "think broadly about how the University should respond to the information revolution." The 27 member commission and four subcommissions surveyed the strengths and weaknesses of the university's use of technology.

- *"President's Information Revolution Commission issues report," University of Michigan Record, (May 7, 2001),*

2003 **UM Wireless Network piloted**

The University pilots UM Wireless internet access, launching in the Hatcher Graduate Library, the Shapiro Undergraduate Library, and Angell Hall.

- *Kim Cobb and Wanda Monroe, "Wireless Network Pilot Begins," University of Michigan Record, (March 10, 2003).*

2003 **MGRID Project launched**

The University of Michigan undertook grid computing with the Michigan Grid Research and Infrastructure Development Project (MGRID). Grid computing would allow the sharing not only of information, but of resources, services, and other tools, as well.

- *"U-M computing grid will foster innovation and collaboration," University of Michigan News Service, May 14, 2003.*

2003 **U of M and IBM create Data Asset Management System**

The University of Michigan and IBM partnered to develop a Data Asset Management System (DAMS). The system was designed to make the University's digital content easier to access and use.

- *Nancy Connell, "DAMS: Harnessing the power of rich media" University of Michigan Record, November 10, 2003.*

2004 Sakai Project launched

The Sakai project was a landmark venture to create open-source course management tools. Funded by a 2.3 million dollar grant from the Mellon Foundation, Sakai was directed by Joseph Hardin, also director of the Collaborative Technologies Laboratory at the Media Union.

- *"Sakai Project Launches Groundbreaking Open.Source Collaboration," University of Michigan News Service, January 22, 2004.*

2004 University joins in creating Michigan LambdaRail

Michigan State University, University of Michigan, and Wayne State University developed the Michigan LambdaRail (MiLR), a high-performance network capable of transmitting large amounts of data, to help the three universities with their research needs.

- *Nancy Connell, "Michigan's three largest universities create high-performance research network," University of Michigan News Service, August 3, 2004.*

2004 UM partners with Google.

On December 14, 2004, the University announced a joint partnership with Google to make 7 million volumes from UM libraries available digitally. Books will be scanned and made searchable, and materials beyond copyright will be available in full-text. The University serves as a site for testing Google's non-destructive scanning technology and digitization workflow, and was the first site to implement such technology.

- *Nancy Connell, "Google/U-M Project Opens the Way to Universal Access to Information," University of Michigan News Service, December 14, 2004.*

2005 Blogging at Michigan.

The University Library, in partnership with Bentley Historical Library and Information Technology Central Services (ITCS), provide a blogging platform for current faculty, students and staff. The system known as Mblog utilizes Moveable Type software. The system includes an archival component so that bloggers may elect to have their inactive blog appraised for the University Archives.

- *Joanne Nesbit, "Diaries of the 21st Century: U-M offers free blogs for students, employees," University of Michigan News Service, February 9, 2005.*

2005 Paperless Grades

Starting in Fall of 2005, the University switched over to an online grade submission for all faculty, making the process faster, more efficient, and paperless.

- *Linda Hancock Green, "Paperless Web Grades gets an 'A'; ready for fall rollout," The University Record, July 11, 2005.*

2005 Quantum computer chip developed

UM researchers produced what was believed to be the first scalable quantum computer chip.

- *Linda Hancock Green, "U-M develops scalable and mass-producible quantum computer chip," University of Michigan News Service, December 12, 2005.*

UM Library releases Deep Blue

Deep Blue provides public online access to various items of research by University of Michigan scholars. The system is free and searchable and provides digital preservation for unpublished research documentation.



- *Joanne Nesbit, "U-M Library Launches Deep Blue: More Access to U-M Scholarship," University of Michigan News Service, May 25, 2006. Deep Blue.*

2006 Michigan Academic Computing Center complex approved.

Approval was given for the lease of space in a complex that would house an offsite data center for computing needs, called the Michigan Academic Computing Center. The complex also housed the Michigan Information Technology Center Foundation, Internet2 and the Merit Network.



- *Diane Brown and Laura Lessnau, "Lease approved for new data center," The University Record, February 13, 2006.*

2007 Wireless computing expanded.

The College of Literature, Science and the Arts launched a 1.5 million expansion of its wireless network that will bring wireless Ethernet to all classrooms, departments, laboratories and faculty offices within the next 2 years.

- *"U-M's College of Literature, Science and the Arts expands its wireless network," University of Michigan News Service, January 15, 2007.*

2007 Climate Savers Program initiated

The University of Michigan partnered with Google's Climate Savers program as part of a commitment to ensure campus computers met energy efficiency standards.

- *Nancy Connell, "U-M commits to green computing with Google Climate Savers program," University of Michigan News Service, June 13, 2007.*

2007 Virtual Sites developed.

Virtual Sites, developed by ITCS, provided the University community remote access to software and printing.

- *"Jillian Bogater, "Virtual Sites allow remote access to computer apps," The University Record Service, November 15, 2007.*

2008 Michigan on iTunes U introduced

Michigan on iTunes U is launched, providing free access to University lectures, debates, performances, and events through the iTunes store.

- *"Michigan on iTunes U now available," University of Michigan News Service, April 14, 2008.*

2008 The Phoenix Processor developed

The Phoenix Processor, a microchip that uses less power than other chips on the market, is developed at the University of Michigan.

- *"Microchip sets low-power record with extreme sleep mode," University of Michigan News Service, June 13, 2008.*

UM involved in creation of fastest quantum computer

UM researchers, along with researchers at the U.S. Naval Research Laboratory and the University of California at San Diego, demonstrated the fastest quantum computer.

- *"Fast quantum computer building block created," University of Michigan News Service, August 21, 2008.*

2008 Maize webmail interface introduced

ITCS launched Maize to provide a more attractive interface, new features, and accessibility. Blue, the older email service released in 2002, continued to operate alongside Maize.

- *Greg Lyon, "ITCS Provides second webmail interface," The University Record, October 20, 2008.*

2008 HathiTrust launched

A consortium of the nation's largest research libraries collaborated to create a repository for their digital collections. The repository, called HathiTrust, provides greater access to digital content.

- *Liene Karels, "Major library partners launch HathiTrust shared digital repository," The University Record, October 20, 2008.*

2009 Memristor Chip built

An electrical engineer at UM built a chip composed of nanoscale memristors capable of storing up to 1 kilobit of information, a step towards making the technology scalable.

- *Nicole Casal Moore, "Engineer's memristor chip could lead to faster, cheaper computers," The University Record, March 23, 2009.*

2009 MWireless launched

MWireless is launched, providing faculty, staff, and students access to a secure wireless internet connection.

- *Jo Ellen Roe, "New, secure Wi-Fi connection keeps data safe," The University Record, April 6, 2009.*

2009 Virtualization as a Service offered

Virtualization as a Service, which had limited availability previously, expands across the Ann Arbor campus, allowing administrators the functions of a server without actually having one.

- *Carrie Stefanski and Mark Personett, "Virtualization as a Service now offered to departments," The University Record, July 27, 2009.*

2009 Building a Mobile Phone Ensemble class taught

A course studying how to turn iPhones into musical instruments is taught for the first time on campus. The class ends with a concert performance.

- *Nicole Casal Moore, "iPhones are musical instruments in new course, ensemble," The University Record, December 7, 2009.*



2010 NextGen Michigan initiative launched

The University launched NextGen Michigan, a multi-year strategy intended to use advanced technology to further the University's mission. The strategy has 4 components: moving to a shared services model, creating alignment that includes instituting an IT Governance Structure, the rationalization of IT, and enabling units to focus on technology that

differentiates their school or college.

- *Joan Witte, "U-M announces plan to transform information technology," The University Record, February 22, 2010.*

2010 **Campuswide IT Rationalization project conducted**

As part of NextGen, a campus wide assessment of IT is conducted. Known as IT Rationalization, the project was designed to determine the best sources for IT services, reduce redundancies, and improve interoperability.

- *Alan Levy, "Campuswide IT rationalization project starts with unit assessments," The University Record, March 8, 2010.*

2010 **Michigan iPhone app developed**

A free iPhone app that provides access to news, events and other university information is created.

- *Lisa Raycraft, "Michigan iPhone app delivers range of information," The University Record, June 21, 2010.*



2010 **CIRRUS Initiative introduced**

CIRRUS, or Computing and Information Resources for Research as a Utility Service, initiative is undertaken. The Initiative, a part of NextGen, will become the foundation for research cyberinfrastructure at the University.

- *Joan Witte, "CIRRUS sets the stage for propelling U-M research forward," The University Record, June 21, 2010.*

2010 **FLUX pilot unveiled**

Researchers in the college of LS&A and the College of Engineering piloted a high-performance computing cluster called FLUX. A component of CIRRUS, FLUX delivers research computing resources to users more efficiently and effectively.

- *Maria Sheler-Edwards, "Cluster offers researchers new high-performance computing options," The University Record, June 21, 2010.*

2010 **Task force on cloud computing privacy and security appointed**

University appoints task force to investigate privacy and security in cloud computing. The task force issued a report identifying issues with and recommendations for cloud computing.

- *James Iseler and Alan Levy, "Task force issues privacy, security recommendations for cloud computing," The University Record, September 6, 2010.*

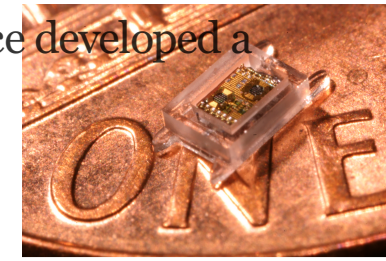
2011 **Modular Data Center on North Campus funded**

ITS received funding for plans to establish a modular data center on North Campus.

- *Anthony Guarnieri and Jillian Bogater, "Regents approve construction work, health informatics program, meeting schedule," The University Record, April 22, 2011.*

2011 **Millimeter-scale computing system developed**

Professors in the College of Electrical Engineering and Computer Science developed a millimeter scale computing system that monitors eye pressure in glaucoma patients.



- *"Toward computers that fit on a pen tip: New technologies usher in the millimeter-scale computing era," University of Michigan News Service, May 19, 2011.*

2011 **U-M - Google Agreement finalized**

As part of NextGen Michigan, Google is selected as the provider of collaborative tools, and the agreement between UM and Google is finalized.

- *Rick Fitzgerald and Rita Girardi, "U-M finalizes agreement to bring Google collaborative tools to campus," The University Record, October 31, 2011.*

2012 **Hewlett-Packard contract made as part of IT Rationalization**

As part of the IT Rationalization and Strategic Sourcing Initiatives, the University contracted with Hewlett-Packard to provide a standardized selection of laptops and desktops to the university. The contract, which was expected to save the University millions, provided options to meet the University's computing needs while creating more responsible spending. The deal did not affect ordering of Apple computers.

- *Tim George, "Hewlett-Packard contract expected to save university millions on desktops, laptops," The University Record, February 13, 2012.*

2012 **University begins move to Google**

The rollout of Google accounts for UM students, retirees, emeritus faculty, and UM Online subscribers began as the first step in the University's move to Google Apps for Education.

- *Rita Girardi, "University begins move to Google," The University Record, March 5, 2012.*

2012 **M+ Box accounts become available**

M+ Box, the University's commercial data storage solution, became available to Ann Arbor campus faculty and staff, providing them with cloud services.

- *Rita Girardi, "M+Box accounts now available to faculty and staff at Ann Arbor campus," The University Record, April 9, 2012.*

2012 **University of Michigan launches Weibo account**

The University of Michigan starts an account on Weibo, the Chinese microblogging tool, in late April. After one week, the account already had 700 followers.

- *"Weibo-Follow Us!" UM-Chinese Alumni Relations Program.*