1. Subject number and title
4.566 Advanced Projects in Digital Media

2. Date(s) offered
Fall/Spring Semesters

3. Credits
2-2-5 Units or 2-2-8 Units

4. Type of subject (lecture, seminar, studio, workshop, lab)
Individual tutoring and group seminar

5. Instructor(s)
Takehiko Nagakura

6. Prerequisites if any
4.562, 4.564 or permission of the instructor upon review of project proposal

7. Subject overview/description
This course provides opportunities for a student to develop an independent research project with a topic related to digital design media. The primal audience is students who have already acquired basic technical foundation in advanced graphics software and/or graphics programming languages through the previous classes at MIT. A student in a research degree program in architecture can use this course to start up a pilot research project prior to his or her thesis semester. The class runs in two different modes. A student must declare a clear frame of a research project at the beginning of the semester upon consultation with the instructor. There will be weekly individual desk critic sessions to help each student advancing an independent research project. At mid-term and the end of the semester, review sessions will be held with all class to share the progress and outcome of individual projects. At other meeting times throughout the semester, there will be occasional short presentations by the instructor or guest speakers who will introduce a variety of research projects and different approaches to solutions. The choice of student independent research topics includes:
   1. Software design tool development
   2. Design knowledge representation and its digital implementation
   3. Advanced digital design/visualization project
   4. Development of interactive hardware device for design and presentation
   5. Other topics related to the use of digital technology in architectural design

8. Schedule of topics, tests, and due dates for major assignments (subject to change)

Week 1: Introduction
Week 2: Students meet individually with the instructor to prepare project proposal
Week 3: Student Presentation - Project Proposal
Week 4: Individual Critic (sign-up sheet available)
Week 5: Individual Critic (sign-up sheet available)
Week 6: Seminar on Device Design: Digitarama and Deskrama by Nagakura
Week 7: Individual Critic (sign-up sheet available)
Week 8: Seminar on Shape Grammar Interpreter: Rubbergraph by Nagakura
Week 9: Student Presentation - Mid-term Review
Week 10: Individual Critic (sign-up sheet available)
Week 11: Individual Critic (sign-up sheet available)
Week 12: Guest Speaker (TBA)
Week 13: Individual Critic (sign-up sheet available)
Week 14: Student Presentation - Final Review

9. Learning objectives
See the overview above.

10. Reading Assignments
No default list. Readings are suggested to suite each individual student project.

11. Completion requirements and grading criteria
Each student is required to make presentations (proposal, mid-review and final review) of his or her project and participate in the discussions during the group sessions. Grades are based on the project's conceptual level of exploration, technical finesse, completeness craftsmanship and aesthetic quality as well as participation to the class. There is no examination.