Minimum Criteria for Promotion and Tenure

Foreword. The Computer Science Department follows the four criteria for Promotion and Tenure as prescribed by Board of Regents Policies, 803.08: Superior Teaching, Outstanding Service to the Institution, Academic Achievement, and Professional Growth and Development. According to Regents' Policies, noteworthy achievement should be expected in at least two areas. For employment or promotion to Associate Professor or Professor, one must have demonstrated some achievement in all four areas. The criteria in this document are in support of the missions of the Department, College, University, and Board of Regents. The criteria prescribed in this document reflect the expectations of the Computer Science Department only. Thus a positive recommendation for promotion or tenure based on the criteria prescribed in this document does not imply a positive recommendation at the other levels of the evaluation process (i.e. levels of the College, University, Board of Regents, etc). Time limits are as prescribed in the University of West Georgia Faculty Handbook Section 103. The professional obligation of a faculty consists of both assigned and unassigned duties and activities. The teaching load shall follow College of Science and Mathematics teaching workload guidelines. The teaching load may be up to 12 contact hours per semester. For tenure track faculty who are active in Professional Growth and Development activities, when possible, the teaching load may be adjusted to 9 contact hours per semester. These are recommendations and should not be assumed as absolute. At the discretion of the Chair of the department, the teaching load may be modified in accordance to departmental needs. Furthermore, the teaching load should follow the recommendations and guidance of the Computing Accreditation Commission of ABET, Inc.

I. Requirements:

The Computer Science Department requires that faculty members demonstrate documented levels of performance in the four areas of Teaching, Service to the Institution, Academic Achievement, and Professional Growth and Development in order to be given a positive recommendation for tenure and to be recommended for promotion at all ranks. This document describes the minimum criteria and requirements for the various levels of performance. The levels of performance for each of the four areas range from low to high. Performance levels appropriate for evaluation of Teaching are: minimum requirement not met; appropriate; good; and superior. Performance levels appropriate for evaluation of Service to the
Institution are: minimum requirement not met; appropriate; commendable; and outstanding. Performance levels appropriate for evaluation of Academic Achievement are: minimum requirement not met; satisfactory; and requirement achieved. Performance levels appropriate for evaluation of Professional Growth and Development are: minimum requirement not met; appropriate; progressing; and Scholarly. Furthermore, this document describes the Departmental expectations at probationary year, one, two and three. We recognize that the third year review is an important milestone in a faculty's tenure process. Additionally the document describes the Departmental expectations for tenure and promotion to various ranks.

II. Performance Standards

The performance standards listed below will be used to reach judgments about the degree of effectiveness of a faculty member's performance during the evaluation period for applications concerning tenure, post-tenure review and/or promotion. The Computer Science Department believes that our primary mission is Teaching and Instruction, but we recognize the need for Professional Growth and Development as well as appropriate Service to the institution. We believe that scholarly activities such as research in both technical and pedagogical areas so that we can remain current and active in our professional fields. We further recognize the obligation for service to our department, college, university and to the public. Therefore, we recommend that for each individual faculty member, 40%-70% of the effort and time be in Teaching, 20%-40% be in Professional Growth and Development activities, and 10%-30% be in the Service to the institution area. The Faculty member should indicate the effort and time devoted to each area for the current year as well as for the upcoming year. It must be noted that these are minimal guidelines and are not, in themselves, enough to insure a positive recommendation for tenure. The individual recommendation will be based on quality and importance to the discipline, the Department, and the University and not on quantity or minimal or inadequate conformance to these guidelines. No positive recommendation may be given with a performance level of minimum requirement not met in any of the four areas.

A. Expected levels of performance in probationary year one:

Teaching: Adequate or expected evaluations are received on the student evaluation forms and classroom visitations by the Department Chair as listed in III.A.1, as well as by at least one of the other listed evaluation means in III.A.2. Further the faculty member has regularly met classes, used/followed departmental syllabi and has been engaged in and completed at least one of the activities listed in III.A.3. Evaluations will be based on a faculty member's performance in the Fall semester. The evaluation will be based on quality, productive effort and importance to the individual and the Department rather than on quantity. The faculty member should use a Teaching Portfolio to document and show evidence of effective teaching. Minimum requirement for performance level appropriate in probationary year one is appropriate.
Service to the Institution: The faculty member is encouraged to have engaged in routine participation in departmental, college or university assigned committees and activities. Minimum requirement for performance level appropriate in probationary year one is appropriate.

Academic Achievement: Master’s degree in computer science with active enrollment in an appropriate and accredited doctoral program leading to Ph.D. degree in computer science or closely related field. Minimum requirement for performance level appropriate in probationary year one is satisfactory.

Professional Growth and Development: The faculty member is encouraged to have completed at least one activity from the list in IV.A. In the first year of employment, this may be taken to mean the acceptance of a paper, presentation or other such activity from the list in IV.A. Minimum requirement for performance level appropriate in probationary year one is appropriate.

B. Expected levels of performance in probationary year two:

Teaching: Adequate or expected evaluations are received on the student evaluation forms and classroom visitations by the Department Chair as listed in III.A.1, as well as by at least one of the other listed evaluation means in III.A.2. Further the faculty member has regularly met classes, used/followed departmental syllabi and has been engaged in and completed at least three of the activities listed in III.A.3 each year of service. The evaluation will be based on quality, productive effort and importance to the individual and the Department rather than on quantity. The faculty member should use a Teaching Portfolio to document and show evidence of effective teaching. Minimum requirement for performance level appropriate in probationary year two is good.

Service to the Institution: The faculty member must have engaged in routine participation in departmental, college or university assigned committees and activities. Minimum requirement for performance level appropriate in probationary year two is appropriate.

Academic Achievement: Master’s degree in computer science with active enrollment in an appropriate and accredited doctoral program leading to Ph.D. degree in computer science or closely related field. Minimum requirement for performance level appropriate in probationary year two is satisfactory.

Professional Growth and Development: The faculty member must have completed at least one activity at level 2 or higher (see list in IV.A). Minimum requirement for performance level appropriate in probationary year two is progressing.

C. For Retention in probationary year three—third year review:

Teaching: The faculty member must document excellent teaching performance based upon the quality of the students’ evaluation of the faculty member and classroom visitations by the Department Chair as listed in III.A.1, upon the other listed in III.A.2 evaluative criteria of teaching, and upon the quality, significance and importance of the activities completed from the list in III.A.3. Further the
faculty member has regularly met classes and used/followed departmental syllabi. The faculty member should use a Teaching Portfolio to document and show evidence of effective teaching. Minimum requirement for performance level appropriate in probationary year three is good.

**Service to the Institution:** The faculty member must document excellent performance based upon merit and a documented, substantial, effective involvement with departmental/college/university/community and/or professional society service. Such evidence may include, but no limited to: chair a departmental committee; member of a college/university wide committee; member of a program committee of a regional conference, advising a students’ organization, etc. Minimum requirement for performance level appropriate in probationary year three is commendable.

**Academic Achievement:** candidates must have earned a terminal degree in Computer Science, or closely related field, from an accredited institution. The terminal degree is normally a Ph.D. Minimum requirement for performance level appropriate in probationary year three is requirement achieved.

**Professional Growth and Development:** The faculty member must be making adequate progress towards a positive recommendation for tenure in the Department of Computer Science. The faculty member must have completed at least one (1) activity at Level 4 or higher and at least two (2) additional activities at Level 2 or higher over the evaluation period (see list in IV.A). Minimum requirement for performance level appropriate in probationary year three is progressing.

**D. For tenure:**

**Teaching:** The faculty member must document superior teaching performance based upon the quality of the students' evaluation of the faculty member and classroom visitations by the Department Chair as listed in III.A.1, upon the other listed in III.A.2 evaluative criteria of teaching, and upon the quality, significance and importance of the activities completed from the list in III.A.3. Further the faculty member has regularly met classes and used/followed departmental syllabi. The faculty member should use a Teaching Portfolio to document and show evidence of effective teaching. Minimum requirement for performance level appropriate for tenure is superior.

**Service to the Institution:** The faculty member must document excellent performance based upon merit and a documented, substantial, effective involvement with departmental/college/university/community and/or professional society service. Such evidence may include, but no limited to: chair a departmental committee; member of a college/university wide committee; member of a program committee of a regional/national conference, advising a students’ organization, etc. Minimum requirement for performance level appropriate for tenure is commendable.
**Academic Achievement:** candidates must have earned a terminal degree in computer science, or closely related field, from an accredited institution. The terminal degree is a Ph.D. No one shall receive positive recommendation for tenure without a Ph.D. in computer science or closely related field. Minimum requirement for performance level appropriate for tenure is **requirement achieved.**

**Professional Growth and Development:** The minimum guidelines for a positive recommendation for tenure in the Professional Growth and Development area are: 1) at least two (2) activities at Level 4 or higher and at least three (3) additional activities at Level 2 or higher, or 2) at least one (1) activity at Level 5 and at least four (4) additional activities at Level 2 or higher over the evaluation period (see list in IV.A). For the purpose of tenure only, the evaluation period would include activities accomplished over years of service accepted at time of hire. Minimum requirement for performance level appropriate for tenure is **scholarly.**

**E. For promotion:**

1. **To assistant professor:**

   **Teaching:** The faculty member must document excellent teaching performance based upon the quality of the students' evaluation of the faculty member and classroom visitations by the Department Chair as listed in III.A.1, upon the other listed in III.A.2 evaluative criteria of teaching, and upon the quality, significance and importance of the activities completed from the list in III.A.3. Further the faculty member has regularly met classes and used/followed departmental syllabi. The faculty member should use a Teaching Portfolio to document and show evidence of effective teaching. Minimum requirement for performance level appropriate for promotion to the rank of assistant professor is **good.**

   **Service to the Institution:** The faculty member must have engaged in routine participation in departmental, college or university assigned committees and activities. Minimum requirement for performance level appropriate for promotion to the rank of assistant professor is **appropriate.**

   **Academic Achievement:** candidates must have earned a terminal degree in computer science, or closely related field, from an accredited institution. The terminal degree is a Ph.D. Minimum requirement for performance level appropriate for promotion to the rank of assistant professor is **requirement achieved.**

   **Professional Growth and Development:** The faculty member must have completed at least one (1) activity at Level 4 or higher and at least two (2) additional activities at Level 2 or higher over the evaluation period (see list in IV.A). Minimum requirement for performance level appropriate in probationary year three is **progressing.**

2. **To associate professor:**

   **Teaching:** The faculty member must document superior teaching performance based upon the quality of the students' evaluation of the faculty member and
classroom visitations by the Department Chair as listed in III.A.1, upon the other listed in III.A.2 evaluative criteria of teaching, and upon the quality, significance and importance of the activities completed from the list in III.A.3. Further the faculty member has regularly met classes and used/followed departmental syllabi. The faculty member should use a Teaching Portfolio to document and show evidence of effective teaching. Minimum requirement for performance level appropriate for promotion to the rank of associate professor is **superior**.

**Service to the Institution:** The faculty member must document excellent performance based upon merit and a documented, substantial, effective involvement with departmental/college/university/community and/or professional society service. Such evidence may include, but no limited to: chair a departmental committee; member of a college/university wide committee; member of a program committee of a national/international conference, advising a students’ organization, etc. Minimum requirement for performance level appropriate for promotion to the rank of associate professor is **commendable**.

**Academic Achievement:** candidates must have earned a terminal degree in computer science, or closely related field, from an accredited institution. The terminal degree is a Ph.D. No one shall receive positive recommendation for promotion to the associate professorship rank without an earned Ph.D. in computer science or closely related field. Minimum requirement for performance level appropriate for promotion to the rank of associate professor is **requirement achieved**.

**Professional Growth and Development:** The minimum guidelines for a positive recommendation for promotion to the rank of associate professor in the Professional Growth and Development area are: 1) at least two (2) activities at Level 4 or higher and at least three (3) additional activities at Level 2 or higher, or 2) at least one (1) activity at Level 5 and at least four (4) additional activities at Level 2 or higher over the evaluation period (see list in IV.A). Minimum requirement for performance level appropriate for promotion to the rank of associate professor is **scholarly**.

3. To professor:

**Teaching:** The faculty member must document superior teaching performance based upon the quality of the students’ evaluation of the faculty member and classroom visitations by the Department Chair as listed in III.A.1, upon the other listed in III.A.2 evaluative criteria of teaching, and upon the quality, significance and importance of the activities completed from the list in III.A.3. Further the faculty member has regularly met classes and used/followed departmental syllabi. The faculty member should use a Teaching Portfolio to document and show evidence of effective teaching. Minimum requirement for performance level appropriate for promotion to the rank of professor is **superior**.

**Service to the Institution:** The faculty member must document excellent performance based upon merit and a documented, substantial, effective involvement with departmental/college/university/community and/or professional
society service. Such evidence may include, but no limited to: chair a
departmental committee; member of a college/university wide committee;
member of a program committee of a national/international conference, advising a
students’ organization, etc. Minimum requirement for performance level
appropriate for promotion to the rank of professor is outstanding.

**Academic Achievement:** candidates must have earned a terminal degree in
computer science, or closely related field, from an accredited institution. The
terminal degree is a Ph.D. No one shall receive positive recommendation for
promotion to the full professorship rank without an earned Ph.D. in computer
science or closely related field. Minimum requirement for performance level
appropriate for promotion to the rank of professor is requirement achieved.

**Professional Growth and Development:** The minimum guidelines for a positive
recommendation for promotion to the rank of professor in the Professional
Growth and Development area are: 1) at least one (1) activity from Level 5 and at
least four (4) additional activities at Level 2 or higher, or 2) at least two (2)
activities from Level 4 or higher and at least four (4) additional activities at Level
2 or higher over the evaluation period (see list in IV.A). Minimum requirement
for performance level appropriate for promotion to the rank of professor is scholarly.

**F. Post-Tenure Review of Faculty**

The Department shall follow the evaluation guidelines, procedure, criteria and
documentation outlined in UWG Faculty Handbook Section 104.02 for the
purposes of Post-Tenure Review.

**III. Teaching**

Evaluation of Teaching must include consideration of written and oral English
proficiency. The faculty member should use a Teaching Portfolio to document and show
evidence of effective teaching.

**A. Teaching Ratings.**

1. Student evaluations will be considered during the teaching rating process and
classroom visitations by the Department Chair.

2. Further evaluation of classroom teaching/instruction activities will be
accomplished by some of, but not limited to the following:
   
   a. Peer evaluations, and/or
   
   b. Classroom visitations by colleagues chosen by the faculty member.

In addition, all faculty are expected to meet classes regularly and follow/use the
Departmental syllabi (unless after prior discussion and agreement with the
Department Chair, a new syllabus is being developed.) The keeping of regular
office hours is required, and the regular upgrading/rewriting of tests and
assignments is also required.
3. Each faculty member is expected to engage in at least one of the following activities each year. Evaluation of performance will be based more on quality, the amount of productive effort, and upon the value of the activity to the individual and to the Department than upon quantity of projects completed. Additional items can be added to this list upon agreement with the Department Chair:

   a. Development of new courses and course syllabi;
   b. Coordination of a multi-section course and evaluation of quality of course and instruction;
   c. Supervision of undergraduate independent study, research, and projects;
   d. Development and/or presentation of workshops and professional development seminars;
   e. Development and/or presentation of Continuing Education courses, workshops and seminars;
   f. Creative and developmental use of instructional media in the classroom;
   g. Development of laboratory materials and projects for classroom or laboratory use;
   h. Evaluation of educational methods used in the classroom;
   i. Development of substantial and complete classroom notes usable and used by other faculty;
   j. Development of substantial and complete software or hardware for classroom use;
   k. Development of documentation and manuals for classroom or laboratory use;
   l. Faculty development related to specific course or area requirements;
   m. Substantial involvement with k-12 programs.

IV. Professional Growth and Development Activities

A. Criteria for rating Professional Growth and Development Activities: The following levels of activities represent the acceptable activities that may be submitted for evaluation to satisfy the Professional Growth and Development area of the total evaluation. Higher-level numbers indicate a higher level of achievement; however, the activities cited here are examples and the list is not limited to those explicitly mentioned. Faculty wishing to have an item considered in a higher level than indicated below should submit a written justification to the Chair of the Department. When a faculty member submits his or her list of activities, he or she will assign appropriate levels to each and provide documentation or reasons as to why each deserves the claimed level. Note that
this documentation should differentiate between refereed and unrefereed submittals where both options exist (i.e. submittal to the SIGCSE Bulletin is un-refereed, where submittal to the SIGCSE Annual Symposium is refereed). Appendix I contains a non-inclusive list of examples of appropriate activities to each level. The list of examples, in Appendix I, shall be updated periodically. The various professional certifications shall be updated to reflect current and future needs of the Department. In all cases, professional certifications should not account for more than 30% of all activities submitted for Professional Growth and Development.

The following guideline should be followed when assigning an appropriate level to each activity:

1. Not reviewed: the conference or publication does not review an abstract before accepting it;
2. Reviewed: the conference or publication reviews a submission or abstract before accepting it. Abstracts or extended abstracts of reviewed presentations are normally published in conference proceedings;
3. Refereed: the conference or publication conducts a formal peer-review process. Submissions are drawn from a national pool of authors and at least two referees evaluate a submission before it is accepted. Refereed presentations are normally published in conference proceedings;
4. Competitively refereed: the conference or publication conducts a formal peer-review process. Submissions are drawn from an international pool of authors, at least two referees evaluate a submission before it is accepted. Competitively refereed presentations are published in conference proceedings.

The following guideline should be followed when assigning an appropriate level for funded work/grants:

1. Noncompetitive: when the application submittal is the only requirement to assure funding;
2. Competitive internal: an application is required and an internal review board/committee makes the selection;
3. Competitive external: an application is required and an external review board/committee makes the selection;
4. Very competitive external: To be considered very competitive, funding:
   1. Must be awarded by a national funding agency after a rigorous selection process; or
   2. Must be for an amount that exceeds the average annual salary for a UWG CS faculty member, not counting in-kind awards, indirect cost or matching funds from the University.
Level 1
1. Referee a book or paper;
2. Not reviewed general talk or article of minor significance;
3. Participation in a professional meeting such as chairing a session;
4. Noncompetitive funded work.
*activities at this level should only be used for probationary year one and annual reports.

Level 2
1. Publication of student research project or thesis;
2. Not reviewed talk or publication at the research level;
3. Editor of publication requiring no original input;
4. Develop educational or technical software used by others within UWG;
5. Contribution to a Regional or National professional meeting such as organizing a session;
6. Participate in a panel discussion at a reviewed conference;
7. Exhibit a poster at a reviewed conference;
8. Successfully complete an approved technical course or workshop in computer science;
9. Noncompetitive funded work;
10. Appropriate professional technical certification (see Appendix I).

Level 3
1. Reviewed talk or publication at the research level;
2. Editor of a technical publication or book which requires technical contribution by the Editor. This may include:
   1. Serving as a department or associate editor of a refereed or competitively refereed journal;
   2. Serving as editor-in-chief of a reviewed professional journal.
3. Lead a faculty development workshop or tutorial at a refereed professional conference;
4. Chair/organize a panel discussion at a reviewed conference;
5. Participate in a panel discussion at a refereed or competitively refereed professional conference;
6. Exhibit a poster at a refereed or competitively refereed professional conference;
7. Substantial retraining of the faculty member so as to be able to teach and research in a new area;
8. Develop educational or technical software with multiple external users;
9. Competitive internal funded work;
10. Appropriate professional technical certification (see Appendix I).

**Level 4**

1. Refereed talks or publications at significant conferences or in significant publications; these may be either educationally or research oriented. A "significant" conference or publication is one of at least national interest having an impact upon the profession;
2. Editor of a journal or book with substantial technical contribution by the Editor. This may include:
   1. Serve as editor-in-chief of a refereed professional journal;
   2. Serve as editor-in-chief of a special issue of a refereed professional journal; or
3. Chair a panel discussion at a refereed or competitively refereed conference;
4. Develop educational or technical software recognized as notable contribution to the discipline;
5. Competitive external funded work;
6. Appropriate professional technical certification (see Appendix I).

**Level 5**

1. Competitively refereed publication or of major importance as measured by: the quality of the journal, reprint requests, citations, and the departmental faculty;
2. Competitively refereed talks or publications at significant conferences or in significant publications; these may be either educationally or research oriented. A "significant" conference or publication is one of at least international interest having an impact upon the profession;
3. Technical level book;
4. Very competitive external funded work;
5. Making major contribution to a National/International professional organization in a leadership role.

**Grant Submission and Works in Progress**

It is understood there is often a significant time delay between the submission of a grant proposal and a funding decision. The act of submitting a proposal is worth
one half the value of the associated grant (rounded down). For example, funded research of small amount or short duration is a Level 3 achievement and thus submission of the proposal would be a Level 1 achievement. Similarly, the act of submitting a scholarly work is worth one half the value of an accepted work (rounded down). For example, the publication of a book is a Level 5 achievement and thus submission of a book would be a Level 2 achievement. If credit is being claimed for submission of a grant or work in progress then copies of the submissions must be included when a faculty member assembles an evaluation dossier.

**Panel Participation:** The participation on a panel and the organization of a panel are recognized to be important but difficult to assign to the above levels. Therefore the determination of the levels will be made on a case-by-case basis and depend on the documentation provided and the importance of the topic.

V. Service To The Institution

A. University/Community Service Activities:

The following list exhibits acceptable University/Community Service activities by category; other service activities are in no way restricted and will be judged on their merit and may be included.

1. Departmental Service Activities:
   a. Departmental Committees;
   b. Departmental Activities such as recruiting of new or transfer students, placement of interns or graduates, arranging departmental sponsored programs, programs/events/workshops for pre-college students, participation in departmental student organizations and activities, arranging for guest speakers for the department, acquisition of materials and equipment for departmental use, etc.

2. University/College Service Activities: Participation in University/College Committees and Programs.

3. Community Service and Engagement: Those are collaborative activities between the larger communities (local, regional/state, national, global) for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity.

4. Professional Service: Participation in professional society committees and/or offices, administrative programs and in service at regional and national meetings.
Appendix I
Examples of Appropriate Professional Growth and Development Activities
Examples of Activities Appropriate to:

Level 1: N/A.

Level 2:

1. Paper publication in a national/regional un-refereed magazine or bulletin of technical and/or educational nature (i.e. ACM SIGCSE Bulletin, etc.). The paper must appear in print in the magazine or bulletin.

2. Paper publication at a regional conference with technical and/or educational nature (i.e. ACM Southeast Regional Conference, etc.). The paper must be at least reviewed. The paper must appear in conference program and proceedings.

3. Participation on a panel at a regional conference (i.e. ACM Southeast Regional Conference). At least an abstract of the panel must appear in the conference proceedings.

4. Paper publication in a local newspaper with general content (i.e. Carroll County Newspaper, etc.). The paper must be at least solicited by the editor of the newspaper.

5. The following certifications:
   a. ICCP General Certification (CCP, ACP).
   b. Red Hat (RHCE- RH 033).
   c. Microsoft (MOUS).

Level 3:

1. Paper publication at a regional conference with technical and/or educational nature (i.e. ACM Southeast Regional Conference, etc.). The paper must be refereed. The paper must appear in conference program and proceedings.

2. Poster-paper publication at a national conference of technical and/or educational nature (i.e. ACM SIGCSE Annual Symposium, etc.). The paper must be refereed and must appear in conference program and proceedings.

3. Organizing a panel at a regional conference of technical or educational content (i.e. ACM Southeast Regional Conference, etc.). At least an abstract of the panel must appear in the conference proceedings.

4. Participation in a panel at a national conference with technical or educational merit (i.e. ACM SIGCSE Annual Symposium, etc.). At least an abstract of the panel must appear in the conference proceedings.

5. The following certifications:
   b. Sun Certified Program for JAVA Platform.
c. Microsoft (MCSE, MCP+I, MCDBA).
d. IBM Certification for e-Business Designer.
e. Certified Network Engineer (CNE).

Level 4:
1. Paper publication at a national conference of technical or educational nature (i.e. ACM SIGCSE Annual Symposium, etc.). The paper must appear in the conference proceedings.

2. Poster paper presentation and publication at a national/international conference of technical merit (i.e. ACM CSC, ACM SAC, IC AI, IEEE Conferences, IJCNN, etc.). The paper must appear in conference program and proceedings.

3. Organizing a panel at a national conference (i.e. ACM SIGCSE Symposium, etc.). At least an abstract of the panel must appear in the conference proceedings.

4. The following certifications:
   a. RHCE (RHCE- RH 300)
   b. Microsoft (MCSE+I, MCSD)
   c. IBM Certified Developer for XML.
   d. Sun Certified Developer for JAVA Platform.
   e. Sun Certified Architect for JAVA Technology 2 Platform.
   f. Oracle8 DBA.
   g. Oracle8i DBA.
   h. Oracle Developer.
   i. Oracle JDeveloper.

Level 5:
1. Paper publication at a national/international conference of technical nature (i.e. ACM CSC, ACM SAC, IC AI, IEEE Conferences, IJCNN, etc.). The paper must appear in the conference proceedings.

2. Paper publication in a national journal/magazine of semi-technical content at a national conference of technical nature (i.e. ACM CSC, ACM SAC, IC AI, IEEE Conferences, IJCNN, etc.). The paper must appear in the conference proceedings or journal.

3. Paper publication in a national/international journal of technical content and merit (i.e. CACM, IEEE Computer, IEEE Computer, IEEE Transactions, Software Engineering Notes, etc.).