



香港城市大學
City University of Hong Kong

Development of a Collaborative and Interactive Programming Learning Platform based on the PASS System

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Abstract:

Computer programming is a core basic skill required in Computer Science and best learned by doing. For effective learning, easy access to practical exercises with useful and timely feedback is essential. An automated Programming Assignment Assessment System, PASS, has already been developed in CityU CS Department. With the support of the user acknowledgements on the usefulness and efficiency of the system in aiding student learning, it is unanimously proposed that the system be made more comprehensive. We propose a two-stage major upgrade to consolidate current success and plan ahead to fulfill the mission of institutionalizing the current practice.

We intend to develop a collaborative and interactive programming learning platform based on the PASS system. Reengineering of the system architecture will be conducted to cater for the tremendous increase in the number of users. Appropriate courseware and more innovative exercises will be developed to increase the students' learning interest. Students are encouraged to share their test cases with others to promote collaborative learning culture. Analytical tools will be developed to analyze usage log, so that slow learners and common weaknesses among students can be identified. Therefore, the instructor can offer specific assistance accordingly, and interactive teaching/learning can be achieved.