

T-way Strategy for Sequence Input Interactions Test Case Generation Adopting Fish Swarm Algorithm

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Abstract:

In Combinatorial Input Interaction (CII) based system, the increasing number of input event causes the increasing number of test cases. Since twenty years many useful t-way strategies have been developed to reduce test case size. In order to reduce test cases several T-way sequence input interaction strategies are explored, such as, Bee Algorithm(BA), Kuhn encoding (K) , ASP with Clasp , CP with Sugar, Erdem (ER) exact encoding, Tarui (TA) Method, U, UR, D and DR, Brain (BR). However, none of them claim that for all test configuration the produced test cases are best. The reason is that the T-way sequence input interaction is NP-Hard problem. In this research, Fish Swarm algorithm is proposed to adapt with T-way sequence input interaction test strategy. The proposed system is compared with the other renowned search-based Tway strategies. The result shows that the proposed system is able to generate feasible and optimal results.

Keywords : Software Testing, Combinatorial Input Interaction Testing; Sequence Input Interaction, T-Way Testing; Fish Swarm.

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