BAB II

GENETIC ALGORITHM

Dalam bab ini kita akan menjelaskan mengenai Genetic Algorithm dan kegunaan algoritma tersebut dalam game “Splatted”. Genetic Algorithm (atau disebut Algoritma Genetika) adalah sebuah Algoritma yang terinspirasi oleh proses seleksi alam, diciptakan oleh John Holland dan tim-nya pada tahun 1960. Genetic Algorithm dapat dipakai untuk menemukan pilihan terbaik dari sebuah permasalahan, seperti catur, optimisasi Decision Tree dan masih banyak lagi.

1. Metodologi

Di Genetic Algorithm yang didasarkan pada seleksi alam, akan diciptakan sejumlah kandidat solusi yang pada algoritma ini akan berevolusi dengan harapan solusi yang terbaik dapat ditemukan dan digunakan pada masalah yang ada.

1. Terminologi

Sebelum memasuki tahap – tahap dalam sebuah Genetic Algorithm, perlu diperjelas beberapa istilah yang akan sering diulang dalam bab ini, yaitu;

1. Gene, Chromosom (Kromosom) dan Population (Populasi)

Kromosom adalah sebuah representasi calon solusi yang dibuat oleh algoritma. sementara bagian – bagian yang membentuk Kromosom adalah sebuah Gene, yang merepresentasikan salah satu dari sekian banyak .



Gambar 2.1

Visualisasi Gene, Kromosom dan Populasi

1. Gene & Kromosom
2. Langkah - langkah Algoritma Genetik

Pada subbab ini akan dijelaskan tahap – tahap dalam Algoritma Genetik dan apa yang terjadi dalam tahap – tahap tersebut.



Gambar 2.1

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1. **Type of Canvas**

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Gambar 2.2

Logo ISTTS Kuning Milik Poin a

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Gambar 2.3

Gambar Elang Milik Poin b-2

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1. 3D

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Tabel 2.1

**Contoh Data Kode dan Nama Program Studi ISTTS –Tabel Milik Subbab 2.1.2 Poin a**

|  |  |  |
| --- | --- | --- |
| No | Kode | Nama |
| 1 | 01 | D3-Informatika |
| 2 | 10 | S1-Elektro |
| 3 | 11 | S1-Informatika |
| 4 | 12 | S1-Industri |
| 5 | 18 | S1-Sistem Informasi |
| 6 | 17 | S1-Design Komunikasi Visual |
| 7 | 21 | S2-Teknologi Informasi |

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2. Kinnect II

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Tabel 2.2

Organisasi Kampus

|  |  |
| --- | --- |
| No | Nama |
| 1 | Badan Eksekutif Mahasiswa |
| 2 | Himpunan Mahasiswa |
| 3 | Unit Kegiatan Mahasiswa |
| 4 | Unit Kegiatan Kerohanian |
| 5 | Panitia PK |
| 6 | Panitia Kartini Day |

Tabel 2.2

(Lanjutan)

|  |  |
| --- | --- |
| **No** | **Nama** |
| 7 | Panitia Dies Natalis |
| 8 | Panitia Baksos |
| 9 | Panitia Bunkasai |

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1. Virtual Reality

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**(a)**



**(b)**

Gambar 2.4

Waterfall (a) Waterfall Normal. (b) Setelah Diberi Filter

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1. Chairil Anwar, *Deru Campur Debu*, (Jakarta: PT GRAMEDIA PUSTAKA UTAMA, 1992), hlm 9. [↑](#footnote-ref-1)
2. Abdul Khalik, Rapi Armad, Bagus Kuncoro, *Belajar Bahasa Indonesia*, (Surabaya: Dwikarya, 2009), hlm 25. [↑](#footnote-ref-2)
3. Mc. Preganent, *Representative of Natural Habits with Prulal Educaton*. Educational Evaluation and Alanytics. Vol. 4 No. 3, Summer 2003, hlm. 120 [↑](#footnote-ref-3)
4. Richard Whittle, *High Sea Piracy: Crisis in Aden* (http://www.aviationtoday.com/rw/military/attack/High-Sea-Piracy-Crisis-in-Aden\_32500.html, diakses pada tanggal 31 Mei 2013) [↑](#footnote-ref-4)