

# Simulation, Discrete Processes on Healthcare Clinic Facility

Tomasz Kuks, May 2003

Project during studies

Selected screenshots of application, for portfolio purposes

**This application was created to** predict how big the facility should be considering size of the city, number of potential customers, type and number of doctors. Eventually allowing to optimize the facility thanks to data analysis created by simulation.

## **Advantages of this applications are:**

- Ability to increase time flow up to 20x
- Ability to configure multiple aspects of simulation generator

## Development environment

- Easy to setup local DB – Microsoft Paradox
- Borland Builder C++, with code version control

Clinic - TnT - 20:55:30

File Praca Ustawienia Language Windows OS Help

Polaczony Administracja bazami Alpha Blending

Klient Czas Generator Symulacja Wyniki symulacji

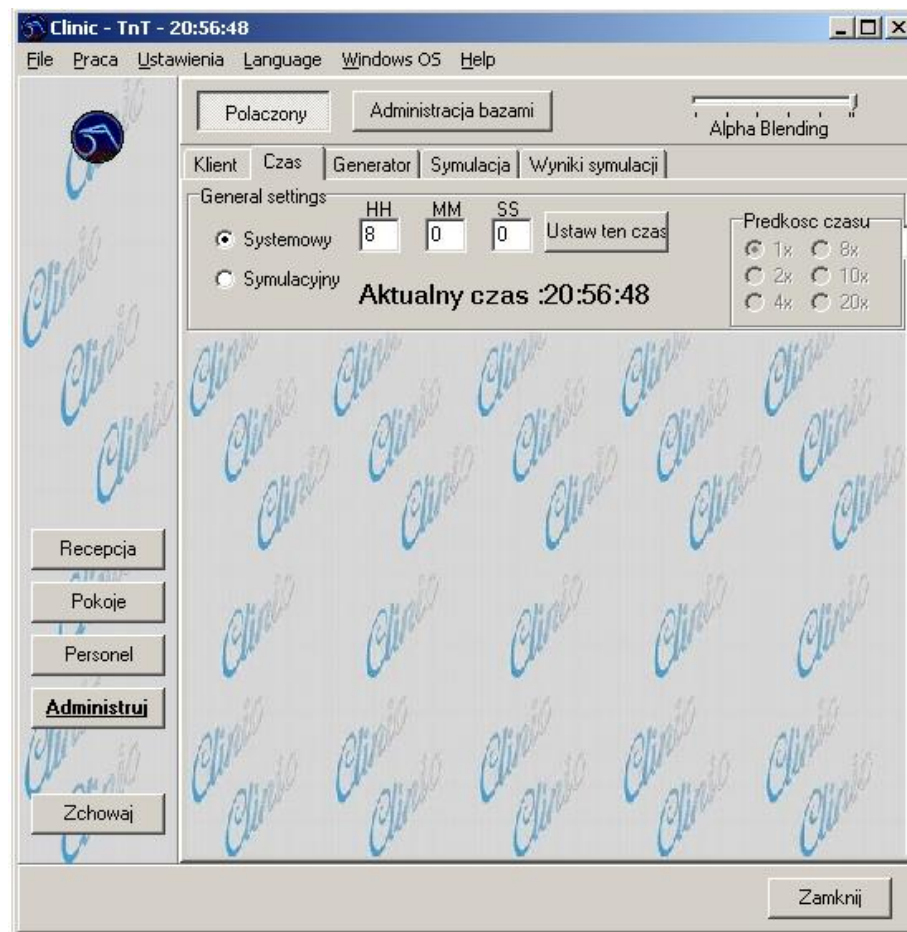
Dzisiejsza baza klientow

No.	Time	Name	Surname	Current Queue

Ogolna Baza klientow

No.	PESEL	Name	Surname	Country
1	81092205777	Tomasz	Kuks	Poland
2	80999999999	Tomasz	Malik	Poland
3	85000000000	Magda	Kuks	Poland

Recepcja Pokoje Personel Administruj Zchowaj Zamknij



Clinic - TnT - 20:58:34

FilePracaUstawieniaLanguageWindows OSHelp

Polaczony

Administracja bazami

Alpha Blending

Klient

Czas

Generator

Symulacja

Wyniki symulacji

Ustawienia miasta

Wielkosc / Prawdopodobienstwo

☒ Mniej niz 1000

☐ 1000 - 10,000

☐ 10,000 - 100,000

☐ Wiecej niz 100,000

1

10

15

20

Generator by TomQX

Czestotliwosc generowania

Max generation time (s)

0

20

40

60

0

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

Hour

8

11

14

17

20

50

59

Min (s)

10

10

59

Max (s)

Rozmowy vs. Klienci

25%

75%

Phone calls

Indoor clients

Inni lekarze

80%

20%

Lekarz ogolny

Zamknij

Recepcja

Pokoje

Personel

Administruj

Zchowaj

Clinic - TnT - 20:59:35

File Praca Ustawienia Language Windows OS Help

Polaczony Administracja bazami Alpha Blending

Klient Czas Generator Symulacja Wyniki symulacji

Kontrola symulacji

Aktualny czas :20:59:34 Stop Pauza Truchom symulac

Tabela faz

Entity	Time	Available	Next activity	Queue
Klient				0
Telefon				0
Recepcjonista				0
Lekarz ogolny		True		0
Internista		True		0
Kardiolog		True		0
Pediatra		True		0
Ginekolog		True		0
Neurolog		True		0
Dermatolog		True		0
Psycholog		True		0
Okulista		True		0

Recepcja Pokoje Personel Administruj Zchowaj

Tabela klientow

No.	Time	Name	Current Queue

Zamknij

Clinic - TnT - Simulation running - 08:00:39

File Work Settings Language Windows OS Help

Polaczony Administracja bazami Alpha Blending

Client Time Generator parameters Simulation Simulation results

Simulation controls

CurrentTime :08:00:38 Stop Pause Run simulation

Phase table

Entity	Time	Available	Next activity	Queue
Client	08:00:34	False		1
Phone	08:00:58	False	Phone call arrival (B3)	0
Receptionist	08:00:54	False	Indoor client servicing (C2)	1
General Practitioner	08:03:34	True	Working	1
Internista		True		0
Kardiolog		True		0
Pediatra		True		0
Ginekolog		True		0
Neurolog		True		0
Dermatolog		True		0
Psycholog		True		0
Okulista		True		0

Reception Facilities Personel Administration Close all

Clients table

No.	Time	Name	Current Queue
1	08:00:15	Generated Client	General Practitioner
2	08:00:34	Generated Client	Receptionist
3	08:00:58	Generated Phone Call	Receptionist
4	08:01:20	Generated Phone Call	Receptionist
5	08:01:46	Generated Phone Call	Receptionist

Close

