



MEDNARODNA  
PODIPLOMSKA ŠOLA  
JOŽEFA STEFANA

JOŽEF STEFAN  
INTERNATIONAL  
POSTGRADUATE SCHOOL

# DECISION SUPPORT IN EMERGENCY CALL SERVICE: ELLOC DECISION MAKING

Miha Ristič, Franc Novak

6. 10. 2014

# Introduction

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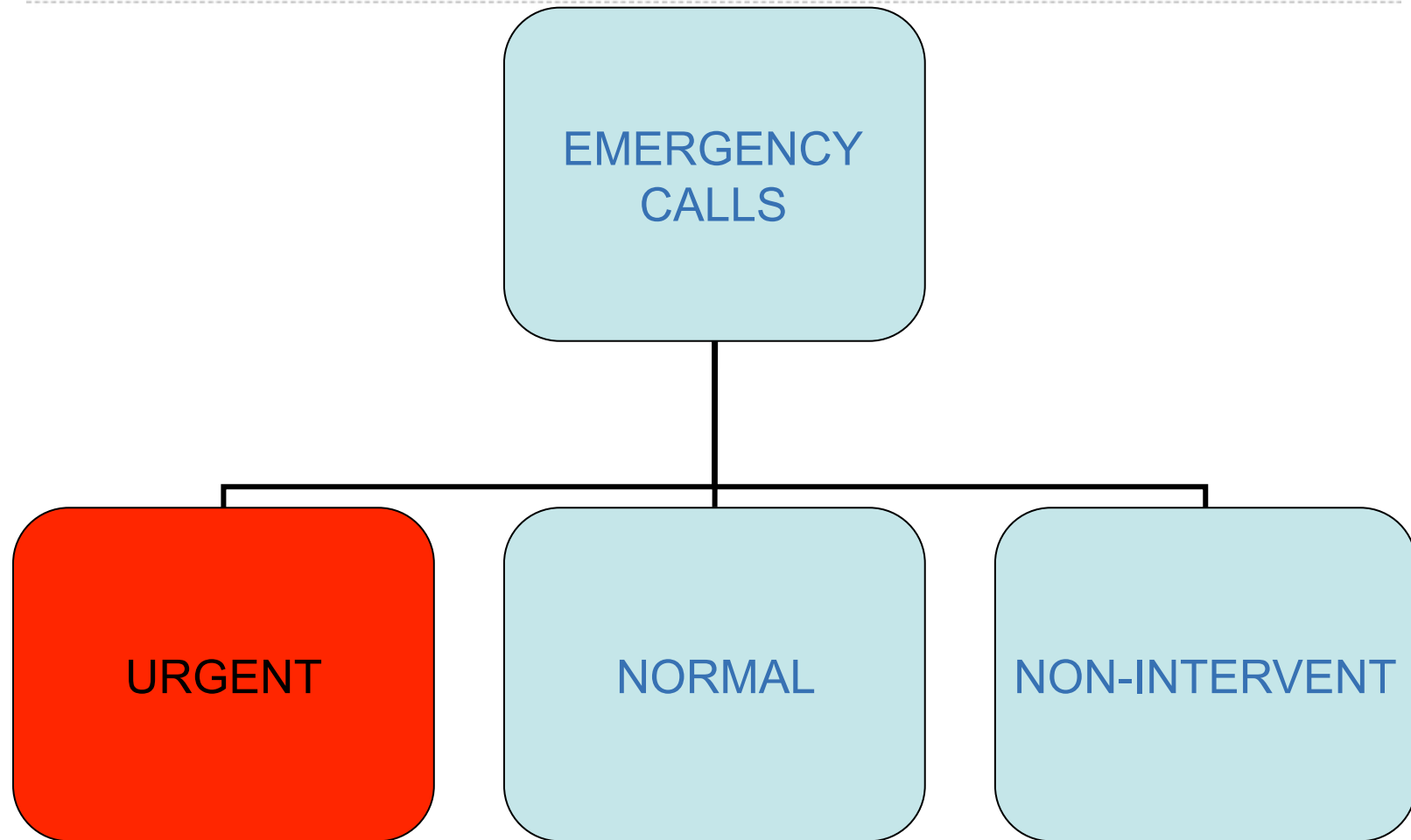
- Introduction
- Defining attributes of the MAUT model
- Scenarios and model checking
- Conclusion

# Introduction – 113 statistic

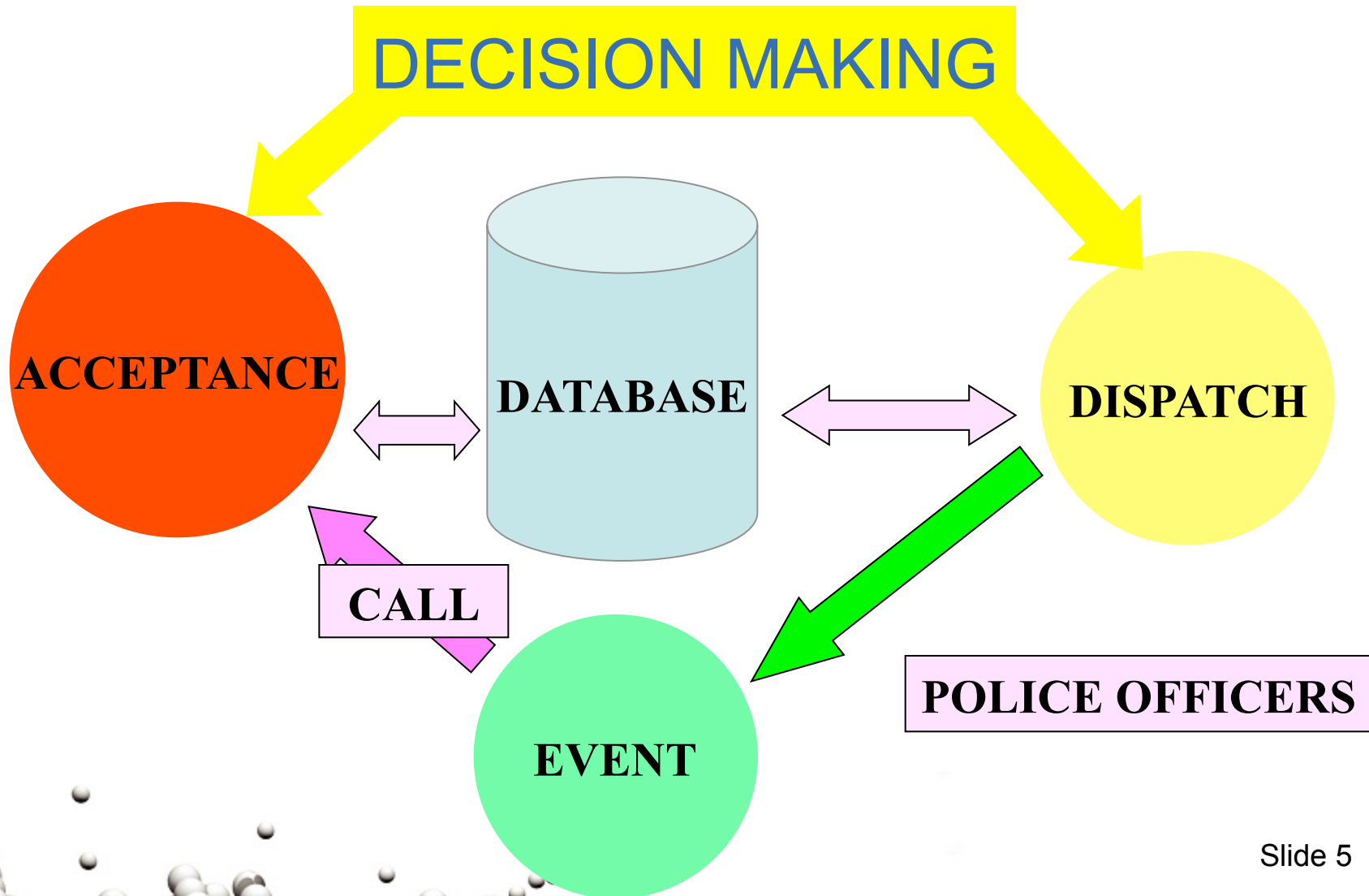
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- 496.432 received calls in 2012
- 194.135 needed a police intervention
- 9.317 of these calls have been classified as urgent

# Introduction – call handling



# Introduction



# Introduction

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- Is this call for a police?
- How urgent is this event in comparison with others which are already in process or are on standby for dispatch?
- How many police officers are required for solving the event?

# Introduction – Event log OCC

OKC 10112008SQL db2 HOST - int: 100

Čaka: 0 ID Klicatelj Priimek in ime Naslov Kraj 3302: DT GRUDEN Mojca 051351136 za 24.10.11 od 20.00 do 08.00 ure

SPREJEM [[ NAPOTITEV / VODJA ]] Izpisi Glave

Napotil RISTIČ Miha

Ključni

Tel. št. »

Priimek SURNAME

Ime NAME

Kraj

Ulica

Status /OŠKODOVANEC

Sporočilo SHORT DESCRIPTION OF EVENT

Kraj dogodka Kraj LOCATION

Ulica

Čas 25.10.2011 00:00:00

Enota POLICE STATION

Teme 304 PROMETNA NESREČA I. KATEGORIJE

Pomemben klic X Nujen klic X

Čas realizacije 10.11.2003 00:00:00

Ukrepi policije

Ostali ukrepi

Poslani / obveščeni

Poslan / obve...	Napoten	Prihod	Poroča...	Opomba
G312 PP Center	7:08:50 25.10			

Povratne informacije DESCRIPTION FROM POLICE OFFICER

ID	Čas klica	Tema	Poslan	N	Enota
1710600	7:06 25.10.11				
1710596	7:02 25.10.11	599 DRUGI DOGODKI	G311 PP Center		PP CENTER
1710593	6:52 25.10.11	124 TATVINA MOTORNEGA VOZILA	G200 PP Bežigrad		PP BEŽIGRAD
1710591	6:48 25.10.11	304 PROMETNA NESREČA I. KATEGOR...	B920 PP Cerknica		PP CERKNICA
1710590	6:39 25.10.11	402 KRŠITEV JRM NA JAVNEM KRAJU (...)	G410 PP Moste	X	PP MOSTE
1710582	4:53 25.10.11	411 STAVKA, DEMONSTRACIJA, PROT...	G305 PP Center		PP CENTER
1710575	2:59 25.10.11	134 VLKOM V DENARNO USTANOVO, B...	B420 PP Kočevje		PP KOČEVJE

ODJAVLJEN X

1 2 3

4 5 6

7 8 9

\* 0 #

Pokliči C

Dvig / Prekinitev

SHRANI

ZAPRI

Časovno obdobje

Od 24.10.2011 05:00

Do 26.10.2011 23:59

OSVEŽI (F5)

Izbor klicev

Inter. V delu

Pom. Nujni

ISKANJE

POD. IZ EVIDENC

Poslušanje

IDDnevnika: 1710600

Zapisov v dnevniku: 6

# Introduction

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Decision making includes:

- assessing the problem,
- collecting and verifying information,
- identifying alternatives,
- anticipating consequences of decisions,
- making the choice using sound and logical judgment based on available information,
- informing others of decision and rationale,
- evaluating decisions.



# Defining attributes

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1. Is there endangered life or property?
2. Is the influence on life or property of the event in question increasing?
3. Whose life is endangered? (police officer, medical rescue, fire fighter, child, VIP, weak person, etc.)
4. How many people are injured?
5. What kind of injuries do they have?
6. Is there anybody injured?

# Defining attributes

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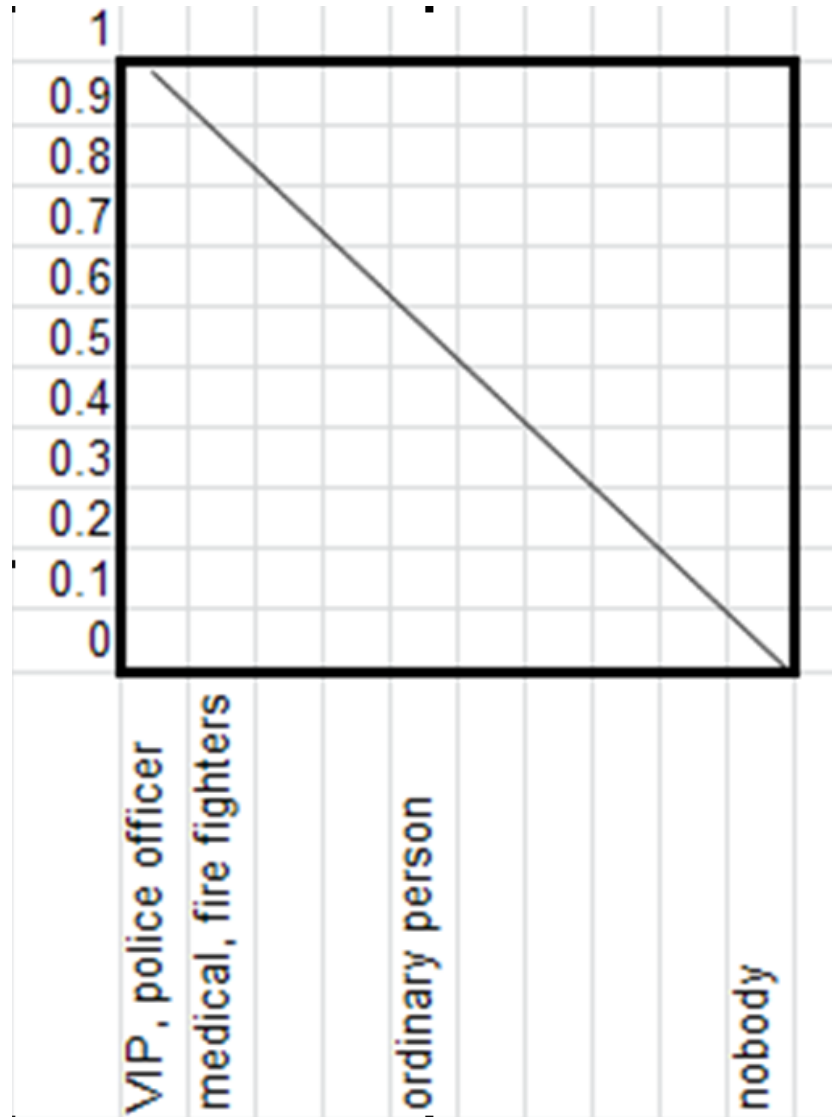
8. How many persons are dead?
9. What kind of property is endangered?  
(national importance, cultural, protected property, etc.)
10. What kind of event has happened? (alarm, murder, other kind of crime, offence, etc.)
11. Will immediate arrival of police secure life of persons or property?
12. Is there some other service more competent to handle this event and is it available?

# Defining attributes

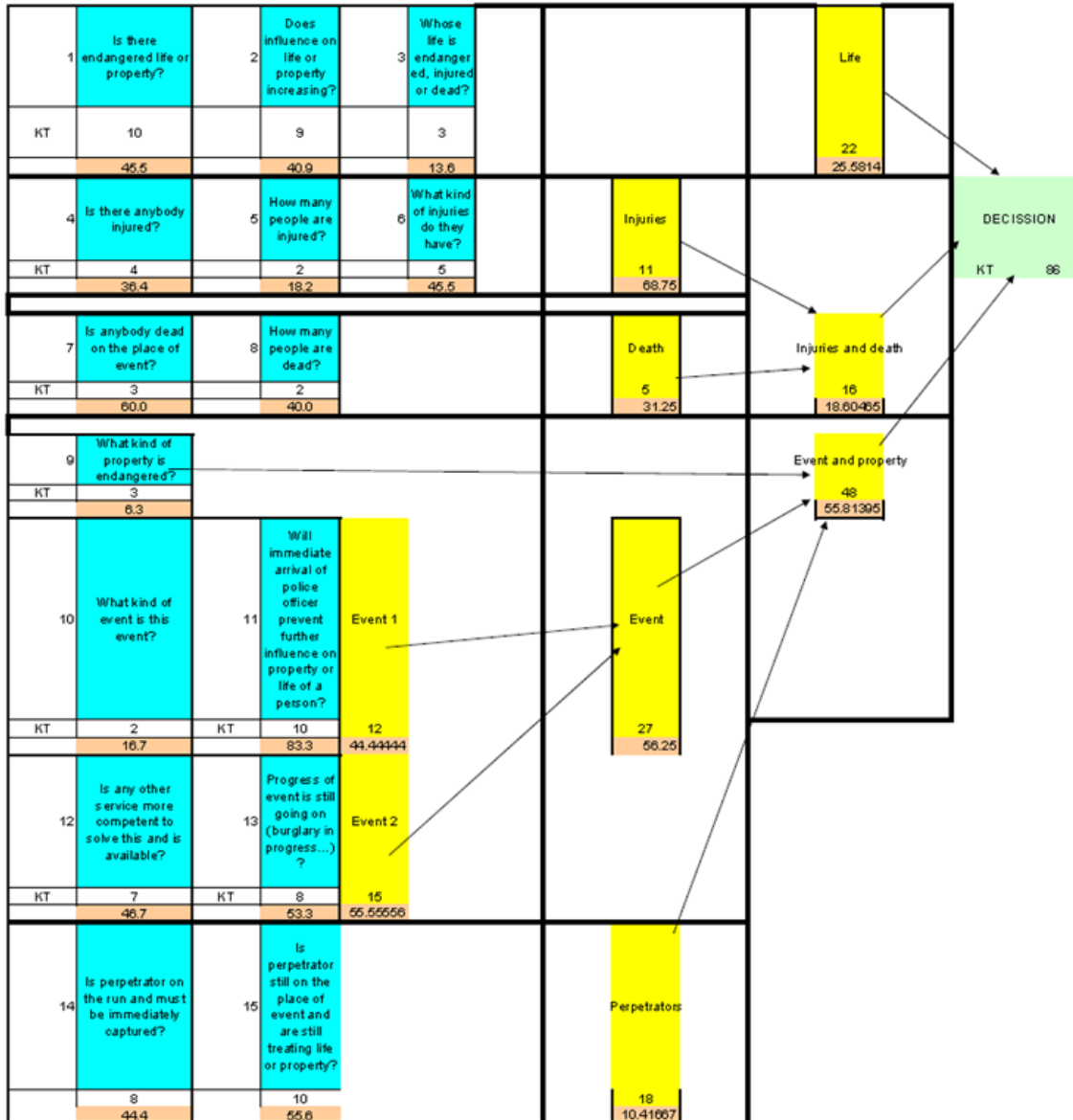
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13. Is the reported event still in progress?
14. Are the perpetrators on the run and must be immediately captured?
15. Are the perpetrators still at the place of the event and are still treating life or property?

# Defining attributes



# Defining attributes



# Scenarios and model checking

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- Murder...
- Shooting where police officer on duty is involved...
- Shooting where a non-police person is involved...
- Traffic accident on a freeway...
- Fight among six people...
- Verbal fight between two neighbors..
- Stolen license plate...
- Stolen a wallet...

# Scenarios and model checking

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# Scenarios and model checking

Scenario	Grade	Result
1. Murder	0,420	5
2. Shooting on police	0,628	2
3. Shooting on person	0,610	3
4. Fight 6 people	0,597	4
5. Traffic accident	0,630	1
6. Verbal fight	0,181	6
7. Stolen license plate	0,097	7, 8
8. Stolen valet	0,097	7, 8

# Conclusion

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- the developed MAUT model assigns reasonable priorities
- might prove to be a useful support
- ELOOC implementation

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# Questions?