

Povzetek diplomske naloge Kako iz labirinta

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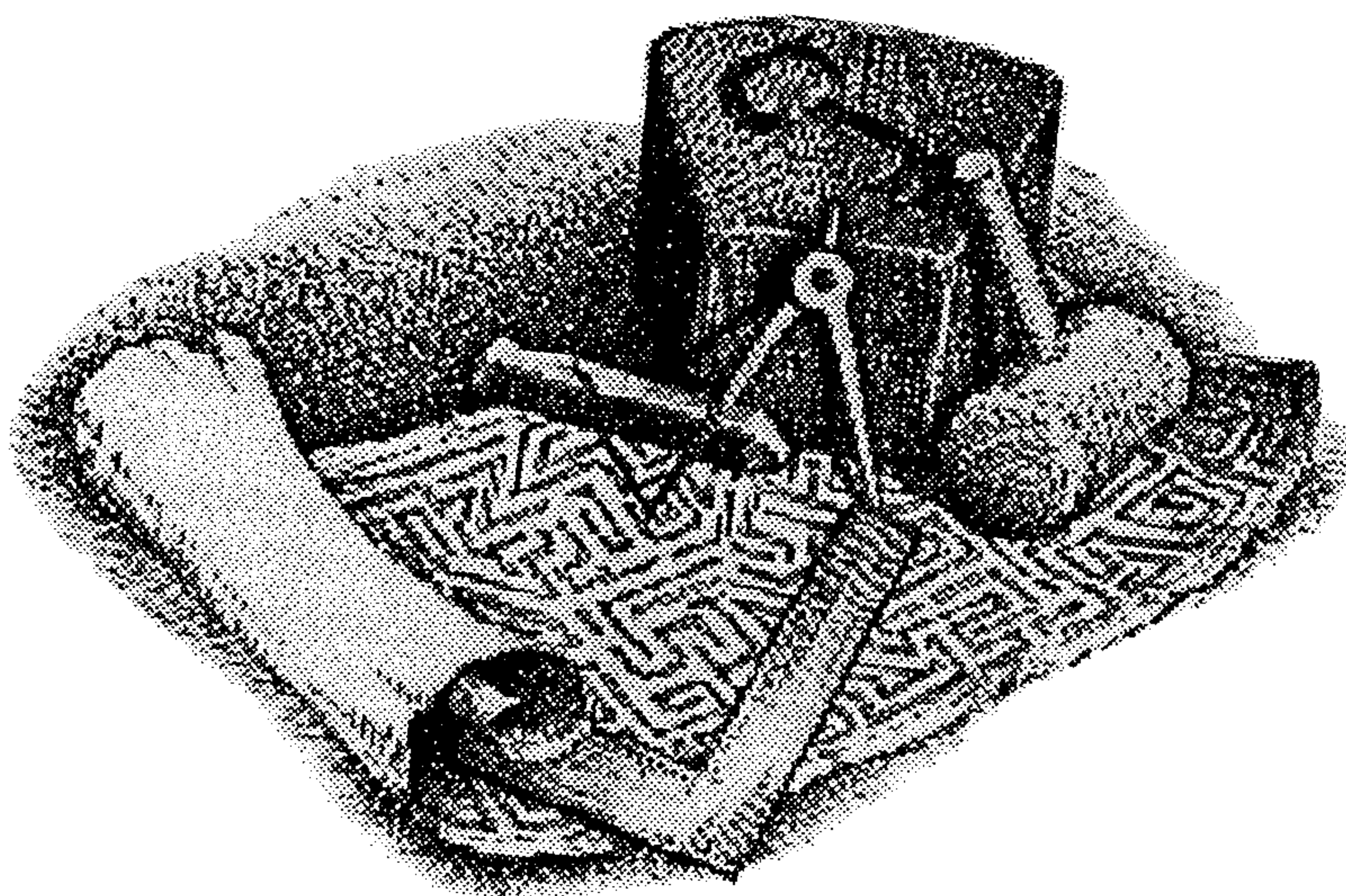
V diplomski nalogi obravnavam problem pregledovanja in orientacije v labirintu. Opisala in analizirala sem več algoritmov, ki rešijo zgornji problem. Ločila sem jih v tri skupine.

V prvi so algoritmi, ki delujejo le v primeru, ko imamo celotno informacijo o labirintu, torej imamo podan zemljevid labirinta. V drugi skupini so opisani algoritmi, ki delujejo tudi v primerih, ko imamo podano le lokalno informacijo, torej zemljevida nimamo. V tretji skupini pa so opisani algoritmi, ki delujejo le za neke posebne skupine grafov oz. labirintov (ravninski grafi,...).

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KLJUČNE BESEDE: labirint, graf, algoritem, Eulerjev obhod, dvojni Eulerjev obhod

KEY WORDS: labyrinth (maze), graph, algorithms, Euler circuit, double Euler circuit



Literatura

- [1] A.S.FREANKEL: *Economic traversal of labyrinths*, Mathematics Magazine, 43, (125-130), 1970.
- [2] M.VENCELJ: *Hoja po labirintu*, Presek, letnik 17, (3-8), 1989/90.
- [3] Š.MIKLAVIČ, M.JUVAN: *Ime rože, labirint in pregled grafa*, Presek, letnik 29, št.5, (292-297), 2001/02.
- [4] NAGESWARA S.V.RAO: *Robot Navigation in Unknown Terrains*, U.S.Department of Energy, Department of Computer Science, (6-12), 1993.
- [5] A.S.FREANKEL: *Economic traversal of labyrinths*, Mathematics Magazine, 44, (12), 1971.
- [6] HERBERT FLEISCHNER: *Eulerian Graphs and Related Topics*, New York, 1991.
- [7] KENNETH A.ROSS, CHARLES R.B.WRIGHT: *Discrete Mathematics*, Englewood Cliffs, New Jersey, 1992,third edition.
- [8] LARRY J. GOLDSTEIN, DAVID I.SCHNEIDER, MARTHA J.SIEGEL : *Finite Mathematics and Its Applications*, Englewood Cliffs, New Jersey, 1992,third edition.
- [9] DRAGO BAJC, TOMAŽ PISANSKI: *Najnujnejše o grafih*, Ljubljana, 1985.
- [10] MICHAEL SEWELL: *Mathematics Masterclasses*, Oxford University Press, 1997.
- [11] D.W.JORDAN, P.SMITH: *Mathematical techniques*, Oxford University Press, 1997,second edition.
- [12] MATHEMATICS: THE SCIENCE OF PATTERNS: *Keith Devlin*, New York, 1994.
- [13] DRAGOŠ CVETKOVIČ, MIRKO MILIČ: *Teorija grafova i njene primene*, Beograd, 1977.
- [14] V.K.BALAKRISHNAN: *Graph Theory*, New York, 1997.
- [15] PIERRE BERLIOUX, PHILIPPE BIZARD: *Algorithms 2; Data Structures and Search Algorithms*, England, 1990.

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- [16] K. THULASIRAMAN, M.N.S.SWAMY: *Graphs: Theory and algorithms*, New York, 1992.
- [17] R.J.WILSON IN J.J.WATKINS: *Uvod v teorijo grafou*, Knjižnica Sigma 63, DMFAS, Ljubljana, 1997.
- [18] F.HARARY: *Graph Theory*, Addison - Weseley Publishing Company, 1972.
- [19] W.T.TUTTE: *Graph Theory*, Encyclopedia of Mathematics and its Applications, Volume 21, 1984.
- [20] L.W.BEINEKE, R.J.WILSON: *Selected Topics in Graph Theory*, Academic Press, London, 1979.
- [21] K.BONDY, U.S.R.MURTY: *Graph Theory with Applications*, Elsevier, New York, 1976.