北京邮电大学 本科毕业设计（论文）任务书

Project Specification Form

Part 1 – Supervisor

论文题目 **Project Title**	Large-scale scene simulation of games in cold-temperate deciduous coniferous forest area based on UE		
题目分类 **Scope**	Multimedia and Vision	Implementation	Simulation
主要内容 **Project description**	The distribution of vegetation in the natural geographic environment changes regularly with latitude and terrain height. The types of plants in different natural zones are obviously different, and different plants have different requirements for heat and moisture. The cold temperate zone covers an area of nearly 1 million square kilometers in northern China. The vegetation types and distribution patterns in this area are reconstructed by the latest UE5 engine technology and Procedural Content Generation (PCG)technology to establish realistic cold temperate game scenes in the 3D game world. The graduation project has great research significance for computational geography, digital content production, and game production.		
关键词 **Keywords**	Large-scale scene simulation of games, cold-temperate deciduous coniferous forest area, UE		
主要任务 **Main tasks**	**1** First, explore the types and growth patterns of vegetation in the cold temperate zone, and establish a quantitative calculation model		
	2 Second, combine the basic terrain data provided by the instructor, calculate and generate the game vegetation scene through the vertical distribution		
	3 Third, establish realistic game scenes in cold temperate zone through simulation of sun height and snow effect		
	4 only three tasks		
主要成果 **Measurable outcomes**	**1** A systematic review of vegetation types and growth patterns in the cold temperate zone		
	2 A set of cold temperate PCG models that can be run in the UE environment		
	3 A set of cold temperate 3D game scenes that can be released		