

# **SPECIALIZED PROJECT REPORT**

## **STUDYING AND DEVELOPING DISTRIBUTED BARRIER ALGORITHMS USING THE HYBRID PROGRAMMING MODEL COMBINING MPI-3 AND C++11**

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# Outline

## 1. Introduction

### 1.1 Motivation

### 1.2 Objectives

## 2. Background

### 2.1 Barrier Algorithm

### 2.2 MPI-3

### 2.3 C++11

## 3. Related Works

### 3.1 The MPI-3 C++11 Paper

### 3.2 Other Barrier Algorithms

## 4. Algorithm & Simple Implementaion

### 4.1 Brook 2 process algorithm

### 4.2 Implementation using RMA

### Operation

### 4.3 Preliminary Result

## 5. Conclusion + Future Works

### 5.1 Accomplishments

### 5.2 Challenges

### 5.3 Plan

### 5.4 Timeline

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Tổng thời lượng thuyết trình: nhóm 1 người = 10p (bao gồm cả demo)

1. Introduction (2p)
  1. Motivation (1.5p)
  2. Objectives (0.5p)
2. Background (1.5p)
  1. Vai trò của thuật toán Barrier trong xử lý đa luồng (0.2p)
  2. MPI: One-sided Communication dùng RMA (1p)
  3. C++11(?)
3. Related Works (1.5p)
4. Algorithm + Implementation + Result (2p)
5. Future Works (accomplishments + challenges + plan + timeline) (2.5p)

$$\text{total} = 2 + 1.5 + 1.5 + 2 + 0.2 + 2.5 = 9.5\text{p}$$