ETERNITY: NUMBERS - PI

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Contents

Chapter 1

User Story

1.1 US-1 Basic calculation

US1 - Basic calculation	
Story ID	US1
Priority	HIGH
Description	As an user of calculator, I want to use the basic operands so I can do the calculation such as addition, subtraction, multiplication and division
Acceptance	• User can choose the operator from + ,- ,* ,/ in his or her calculation task. • The result of calculation should be correct e.g. 5 + 2 = 7 • The priority of / and * are higher than + and - • When calculate one number divided by another, the denominator cannot be 0, if it is, the result shows infinity
Estimate	4 points
Constrains	the operators cannot be appeared in a row such as 5+/*3 or 3++−5

1.2 US-2 Store and recover the result or number

US2 - Store and recover the result and number	
Story ID	US2
Priority	MEDIUM
Description	As an user of calculator, I want to store a result or number into the memory so that I can recover it when I need it
Acceptance	• User can store a number or a result any time he or she wants • The recovery can be used as a number in the calculation • When the 4th memory number comes in, the 1st number will be erased
Estimate	2 points
Constrains	It can only store the result number not the operators

1.3 US-3 Clear the result

US3 - Clear the result	
Story ID	US3
Priority	LOW
Description	As an user of calculator, I want to clear the previous calculation so that I can start a new calculation from beginning
Acceptance	• User can clear the result of a calculation and start a new one • It can not only clear the result number but also the calculator (in the middle of the calculation)
Estimate	1 point
Constrains	None

1.4 US-4 Get value of PI

US4 - Get the value of PI	
Story ID	US4
Priority	HIGH
Description	As an user of calculator, I want to get a PI, which keeps at least 6 decimal places, once I click the button PI
Acceptance	• the user press the pi button the number of 3.141592 should be returned • the pi can be applied in any kinds calculation as a number
Estimate	2 points
Constrains	the display accuracy should at least keep 6 decimal places

1.5 US-5 Calculate the area of circle

US5 - Calculate the area of circle	
Story ID	US5
Priority	MEDIUM
Description	As an user of calculator, I want to calculate the are of a circle just by input the r so that I can calculate the area of circle very fast
Acceptance	• there is a formula pi*R*R in the memory, the user can input only the value of r to get the result • the result should be correct and precise within 15 digital numbers.
Estimate	4 points
Constrains	the r must larger than 0 (since it doesn't make sense in the real life if the r is smaller than 0)

1.6 US-6 Calculate the circumference of the circle

US6 - Calculate the circumference of the circle	
Story ID	US6
Priority	MEDIUM
Description	As an user of calculator, I want to calculate the are of a circumference just by input the r so that I can calculate the circumference of circle very fast
Acceptance	• there is a formula 2*pi*R in the memory, the user can input only the value of r to get the result • the result should be correct and precise within 15 digital numbers.
Estimate	4 points
Constrains	the r must larger than 0 (since it doesn't make sense in the real life if the r is smaller than 0)

Chapter 2

Backward Traceability Matrix

2.1 Traceability Table

	Source 1	Source 2	Source 3
US-1	Prototype in real life	Project description	
US-2	Prototype in real life	Internet	
US-3	Prototype in real life		
US-4	Interview: Yanpeng Wang	project description	
US-5	Interview: Yanpeng Wang		
US-6	Interview: Yanpeng Wang		
US-7			
US-8			

Table 2.1: Backward Traceability Matrix

2.2 Traceability Source

References