Abstract
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All the outlabs were worth 4 marks, which implies 1 Day penalty was 4 marks(not submitting after 24 hours)
One may say that 1 Day penalty is 4 marks. This is not right for the project as project is of higher value.
Hence, we model the late penalty scheme around a parameter α i.e. the amount of marks deducted at the end of one day due to late penalty. Hence, α <= total marks of project(15)

Current Scheme

Analysing the current late penalty scheme for outlabs

Late(in hours)	0	2	4	6	8	10	14	24
Penalty	1%	2%	4%	8%	16%	32%	64%	100%

Characteristics of this scheme

It is exponential.
You lose 100%(4) marks at the end of one day.

Justifying the jump (14-24)

We see that there exists a sudden jump in the duration of the time slot between 14 to 24 hours. This was probably because if there were another x such that the slots were 14-x and x-24, then the penalty in the slot x-24 would have been 128%(>100%) which is not suitable. Hence, one slot of 14-24 is made with penalty 64% and for any time greater than 24 hours 100% is deducted(truncating 128%)

Why this scheme not suitable for projects?

As x% of 15 is very harsh penalty. The marks deducted might outweigh the efforts put in for the project.

Desired characteristics

It is exponential.
You lose α marks at the end of one day.

Our scheme

We make minimal changes, proposing an exponential scheme.

Proposed Penalty Table

Let x be a variable which we will compute later.

Late(in hours)	0	2	4	6	8	10	14	18	24	36
Penalty(% of x)*	1%	2%	4%	8%	16%	32%	64%	128%	256%	512%

Example:
    A 1 hour delay will result in a penalty of 1% of x = 0.01*x
    A 5 hour delay will result in a penalty of 4% of x = 0.04*x

Note that as x < 15, penalties grater than 100% of x can be awarded. Hence, the big slot of 14-24 hours can be broken down into more reasonable 4 hrs : 6 hrs slots. [See Justification of 14-24 jump above]

We want α marks to be deducted at the end of 1 day.
Hence,
    256% of x = α;
=> x = α/2.56;

To be fair, we also set a lower bound on α by considering submissions later than 36 hours as invalid (15 marks penalty).
Hence,
    512% of x >= 15;
=> 5.12 * α/2.56 >= 15;
=> α >= 7.5;

Also, as the penalty cannot be more than 15 (No Negative Marking),
The actual penalty = min(% of x, 15); [Where % is a function of time, seen from the penalty table]

Fairness
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This proposal is fair to everybody as:
1. It has been derived logically from current scheme by making minimal changes.
2. Differentiates between teams submitting at different times.
3. Fair to students as it is neither too harsh nor too lenient (α is a measure of degree of harshness).
4. Instructor, as he has the freedom to choose α from [7.5, 15].

Late days
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The Late Day policy has almost no relation with penalty scheme:
    Late Day policy defines rules for obtaining higher marks
    Penalty Scheme defines rules for obtaining lower marks

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Worst case analysis
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The worst case (for students) is when α is maximized.
Hence,
    α = 15;
Here,
    x = 15/2.56;
=> x = 5.86;

Here, 15 marks penalty is received for all times greater than 24(using previous min formula). This scenario is also ideal in the view point that all 100% marks is lost at the end of 24 hours.

Characteristics of this scheme

It is exponential.
You lose 15 marks at the end of one day.

Proposed Penalty Table

Late(in hours)	0	2	4	6	8	10	14	18	24	
Penalty(% of x)*	1%	2%	4%	8%	16%	32%	64%	128%	15 marks	

* Here x = 5.86