# Transcript – Synful Computing Response to EDC Complaint

# Slide 1: Project Goal | UK based PC that will compete with the new IBM PC.

The overarching goal of the project is to create a UK based PC that will compete with the new IBM PC. The IBM PCs retails at approximately £1000 (Edwards, 2021). However, the proposed cost for the Synputer was just £250.

The specification was based on a single conversation between Will and Colin which may have led to confusions regarding priorities. The discussion was wide ranging and covered many scenarios and specifications. This has left the brief open to interpretation.

There was no agreed milestones to review progress, or consideration to the creation of protypes. This led to a situation where the project moved forward to production unchecked by EDC and making changes now is challenging but not impossible.

Synful Computing has now manufactured 2000 PCs ahead of the launch next month. This type of project delivery is associated with the waterfall style where each phase flows into the next. Waterfall methodologies can work well, but their success depends on tight design objectives which have been clearly communicated (Jadeja, Misra, and Mittal, 2024). In this case, the failure to communicate an agreed plan, is in fact, a plan to fail.

In light of a defined, agreed brief, EDC can only reasonably expect Synful Computing to have worked to the only defined constraint – the budget.

The budget set is simply not sufficient to cover all of the recently shared desirable requirements, and there will need to be some compromise to allow both parties to establish a fair and reasonable margin.

In summary, the barriers to achieving the goals are as follows:

* Lack of clarity regarding the agreed specification
* Insufficient budget to achieve the desired outcomes of the project
* Lack of milestones to review and adapt. An Agile approach would have been much better.

Figure 1 - Barriers to Success

There are solutions to reach a fair and equitable resolution and a model solution will be presented which will provide a framework from which to agree a way forward. Before the solution is discussed, it is important to review the costs incurred to date, alongside the implications of revising the specification, both in terms of time and budget.

# Slide 2: Budget | Current Position

The facts of the matter are that Synful Computing have incurred substantial costs throughout the project. It must be recognised that after 12 months with no review, both parties are responsible for any overspend that now occurs as part of any remedy. It must also be recognised that after 12 months, the production is now complete and 2000 units have been manufactured, in anticipation of next month’s launch.

The costs to date can be broadly categorised as:

* Design Costs - £96,250
* Production - £31,500
* Testing - £1,850
* Copy Licence - £500
* Harward Components - £208,000
* Software & Media - £66,000
* Management Costs - £52,288

Figure 2 - Budget: Synputer Mark I

A pie chart with numbers and text

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This leaves a small **Contingency - £43,611**, less than 10% of the protect (Uzzafer, 2023). It would be good practice to consider apportioning the costs, delivering a cost per unit of £288.19. This leaves a small contingency of just £21.81.

Any reasonable person would conclude that given the budget constraints, there has not been a lack of care or skill, but the barrier to meeting all of the desired requirements is the cost of components and software licences.

There is also an unintended consequence of the limited budget that presents a barrier to changing the existing machines. That is the choice of the soldered board. If the budget had been more realistic, a socketed board would have been used which is easier, and less costly, to adapt.

The current state is that the Synful Computing have incurred costs of £456k and 2000 machines have been produced. The solution will be centred on the new Synputer Mark II.

# Slide 3: EDC | Updated Requirements (Nov 1983)

EDC have raised an official complaint and have threated to sue Synful Computing for £1million for breach of contract. Clearly, EDC has not incurred a £1million loss and a verbal conversation followed by a raised purchase order is no substitute for a written contract and design specification(Durham, 2021). Legal action would be drawn out, hostile and any outcome would be unclear, given the lack of a formal project brief. This meeting aims to be solution focused. Where parties work together without blame this maximises success(Durham, 2021). As such these potential solutions should be viewed as part of a without prejudice settlement (Grimwood, 2022).

EDC have provided clarity regarding requirements and have, helpfully, placed them in order of priority. Clearly, this should have formed part of the agreed, documented project brief.

Figure 3 – EDC Requirements

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| --- | --- | --- |
| Industry standard operating system |  | The Syn OS may be considered by some as an industry standard. Colin’s view is that Will did wish to consider alternatives, but the reason was workload for the Syn team. Nonetheless, we’ll RAG this as amber due to the lack of clarity. |
| External keyboard/ connector |  | These clarified requirements can all be met for future production. However, there is an increase in cost of components.  Additionally, the architecture of the machine would need to be redesigned and this would take some weeks to achieve, before production can begin.  As highlighted earlier, the cost of the Synputer Mark II would necessarily increase. This would, necessarily, raise the price at the point of sale.  However, Colin and Will discussed an evolution of design and it would be obvious that the 2000 machines represent Synputer Mark I and the revised Synputer Mark II can be released in 12 months time. |
| At least 512KB of RAM |  |
| At least 1 industry standard drive with removable media |  |
| SCSI expansion capability |  |
| At least a 68000 CPU – preferably upgradable |  |
| Minimum of 2 serial ports that support RS 422/ 485 standard (network capable) |  |
| A board that is ready to support a GUI system and mouse if required by the user |  |

# Slide 4: Updated Requirements | Solutions (1)

The next section will consider potential solutions and their implications. These will be examined in order of priority to EDC.

## Industry standard operating system **- £10,500**

A Unix licence costs $10,000 with a $500 cost for a BSD copy licence. Assuming a foreign exchange rate of £1:$1, the updated budget would rise by £10,500. This could be supplied to the existing machines, allowing EDC to realise their most important priority.

## External keyboard/ connector - **£33,750**

It is not practical to change the form-factor of the case in time for the December launch as this requires a 5 week redesign process before resuming production. However, it is possible to include this as part of the Synputer Mark 2. For ease of comparison, the increased cost would be £33,750 for 2000 units or £16.88 per unit. The Synpuer Mark 1 cannot be economically adapted as a new board with a new G1 Chip would be needed.

# Slide 5: Updated Requirements | Solutions (2)

## At least 512KB of RAM- **£10,500**

The machine delivers all core functionality with the 128KB of RAM included. Of course, the Mark II should include 512KB or RAM at the next launch. This will add £4 per unit or £8000 for a 2000 unit batch. The G2 chip will also need redesigning. As mentioned earlier, had the budget been more generous, Syn Computing would have included a socketed board for easy upgrades. However, there is a neat solution which aligns with the initial discussion between Will and Colin. They agreed that an expandable machine is ideal and Will commended Colin’s ‘excellent’ approach to this area.

Additional RAM can be included with the Pro-Expansion board which can be fitted to Mark I machines by Syn Computers as an upgrade service. We could charge £50 for this service. The offer would run until the Mark II is launched in 12 months’ time.

## At least 1 industry standard drive with removable media - **£15,000**

It would be perfectly possible to include a mixed storage option for the Mark II machine. Of course, the additional versatility of cartridge and floppy disc storage comes at a price. This would add an additional £8.75 per unit to the budget.

# Slide 6: Updated Requirements | Solutions (3)

## SCSI expansion capability **- £42,500**

The Mark II machine will deliver SCSI capability through the Pro-Expansion Card. This will include an SCSI interface and the Mark II will require a designed IOP glue chip. Sadly, this means that this can not be offered as part of the upgrade option as the Mark I has a soldered board, due to the budget constraint set by EDC. This new requirement for the Mark II does come at a significant cost of £42,500 per 2000 units.

## At least a 68000 CPU, preferably upgradable **- £20,000**

The Mark I uses the Motorola 68008, as Colin suggested in the initial conversation. This is not upgradable due to the soldered board. However, the Mark II will use a socketed board which will allow easier upgrades in the future.

# Slide 7: Updated Requirements | Solutions (4)

## Minimum of 2 serial ports that support RS 422/ 485 standard (network capable) **- £7,250**

The upgraded serial ports are a minor issue to be resolved with the Mark II. The SC100 port would be replaced with multiplex SC150. This supports both a mouse and external keyboard, making the Mark II ready for a GUI environment. There is a small project uplift of £7,250 or £3.63 per unit.

## A board that is ready to support a GUI system and mouse if required by the user

The Mark II will be ready to support a GUI system as the Pro-Expansion Card is used with the SC150. This is a rapidly evolving space and with the launch of the Mark II in 12 months’ time, Will and Colin will be able to consider the GUI of choice. It is better to launch the Mark I now and the Mark II in 12moths time having made the winning GUI decision. We don’t want to back the wrong horse, just look at the current turmoil in video cassettes with the current battle between JVC’s VHS and Sony’s Betamax (Elmore, 2025). By the way, my money is on the superior Betamax format.

# Slide 8: Budget | Revised Position

We will redesign the computer to meet the new requirements of the Mark II and produce 2000 units to launch in one year’s time (Monday 3rd December 1984).

While there are substantial increases in the hardware components, the excellent work of the Synful Computing team will provide a strong foundation for the next generation of our ground-breaking PC.

We will invest significantly more time in testing and building in milestones for executive review. The Mark II is a sophisticated machine and it is essential to adopt an agile approach to the next phase of the project.

# Slide 9: Synputer Mark II | Agile Development

The Gantt Chart shows the project timeline, including, milestones and sprints. The project will start in January 1984, after both our legal teams have agreed a contract. The Lucid Gannt Chart has been embedded in the slides, so you can zoom, scroll and examine at your leisure. A hard copy has also been provided for your convenience (Appendix A).

Figure 4 - Synputer Updated Budget

The first design prototype will be available to share with EDC on, Monday 12th March. Any initial amendments will be completed by Friday 13th April.

Following feedback from the executive, the Mark II will blueprint will be refined. Will and Colin will conduct an executive review from 16th April. Specific, agreed, feedback will form the basis of a further sprint to develop the final prototype.

The 2nd prototype will be available from Monday 2nd July, again to be shared with EDC. Final amendments will be made before presentation to Will and Colin for the pre-production executive review which will take place on 6th August.

Production of 2000 units will take place from 20th August to 12th October, leading to final testing being completed on 9th November.

Will and Colin will complete the final executive review on 12th November, ready for the Synputer Mark II launch on Monday 3rd December 1984.

# Slide 10: Next Steps | EDC-Synful Partnership

Will and Colin originally discussed the need to develop a computer brand, which would evolve to compete with the IBM at the fraction of the cost. The Synputer Mark I paves the way for the next revolution in computing technology to be delivered in full by the Synputer Mark II – released in December 1984.

We know EDC will be as excited as we are to continue this journey and are grateful that there is a revised budget to accommodate the updated specifications.

We can deliver the Mark II to EDC at a unit cost of £275, in line with the recent communication. We understand that the last year has not always been smooth. That’s why we the project plan for the Mark II adopts an Agile approach with more frequent communication, particularly for Will and Colin to retain confidence in this joint venture.

In the spirit of cooperation and collaboration, if EDC agree to the production of the Synputer Mark II, we would offer a discount on the 2000 Synputer Mark I PCs at £230 per unit.

We look forward to continuing the EDC-Synful partnership and delivering tomorrow’s technology today.

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## Appendix A – Gantt Chart: Synputer Mark II

The Gantt Chart was created using the Lucid online app and can also be viewed at [Synputer Mark II](https://lucid.app/lucidchart/563c3a6c-4914-4eb8-a3d4-0fa4c095f7bf/edit?viewport_loc=-9398%2C-19989%2C3698%2C1823%2C0_0&invitationId=inv_6e8267f2-dff0-489d-8787-86c3ecc979d9).

A screenshot of a computer

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