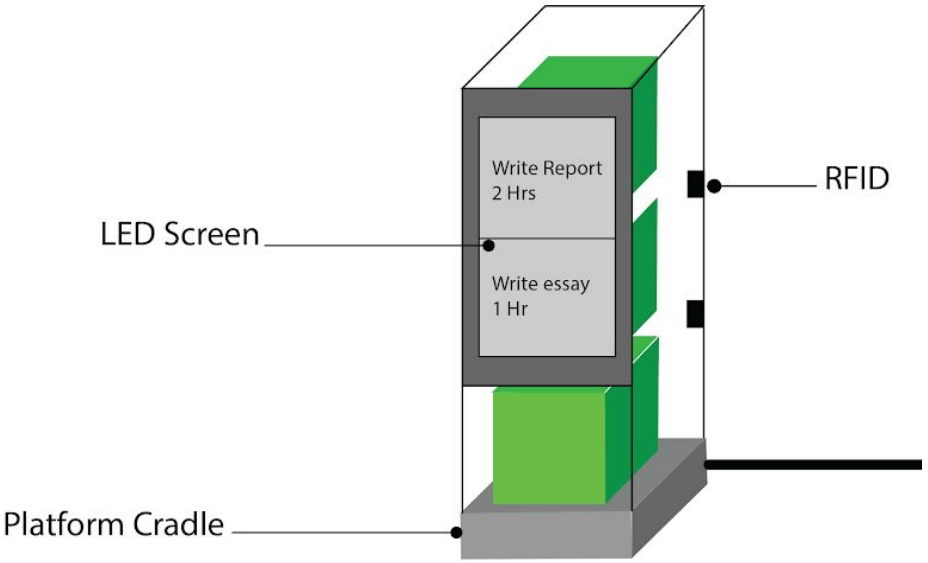

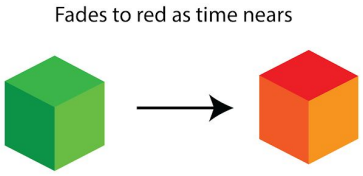

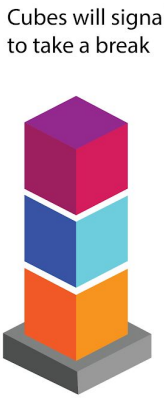

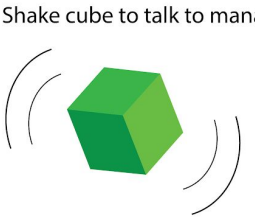

CUBITS

PROPOSAL DOCUMENT

HOCUS FOCUS

26/03/2018

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Hocus Focus

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Physical Computing & Interaction Design Studio proposal
26/03/2018

Introduction

This document is a proposal for 'Cubits', a physical task manager. It provides a background review of the theme, an outline of the intended audience, future planning for the project, and an overview of team roles and responsibilities.

'Cubits' is a physical device which divides tasks into a series of cubes. Users stack these cubes into a pillar. The current task is the cube at the bottom of the pillar. To move on to the next task, the user pulls out the bottom cube, collapsing all the cubes down one level. The pillar displays information about the cube such as the task name, time left, and importance of the task. The purpose of the project is to enhance workflow and focus on tasks.

Background

PRODUCTS

The Kanban Board is a visualisation tool to organise and optimise your workflow. It originated in the 1940's at Toyota as a way for teams to communicate more clearly what work needed to be done. It is typically divided into three columns labelled 'Open', 'Active' and 'Closed', as shown in Figure 1 (LeanKit, 2018). Users of the Kanban Board would move their tasks from left to right. Groups can easily visualise what is done, what is currently being worked on, and what is completed. It also served as a way to limit how much work is being done at any given moment. It forces users to think about how much they are loading themselves with and adjust their workload accordingly.

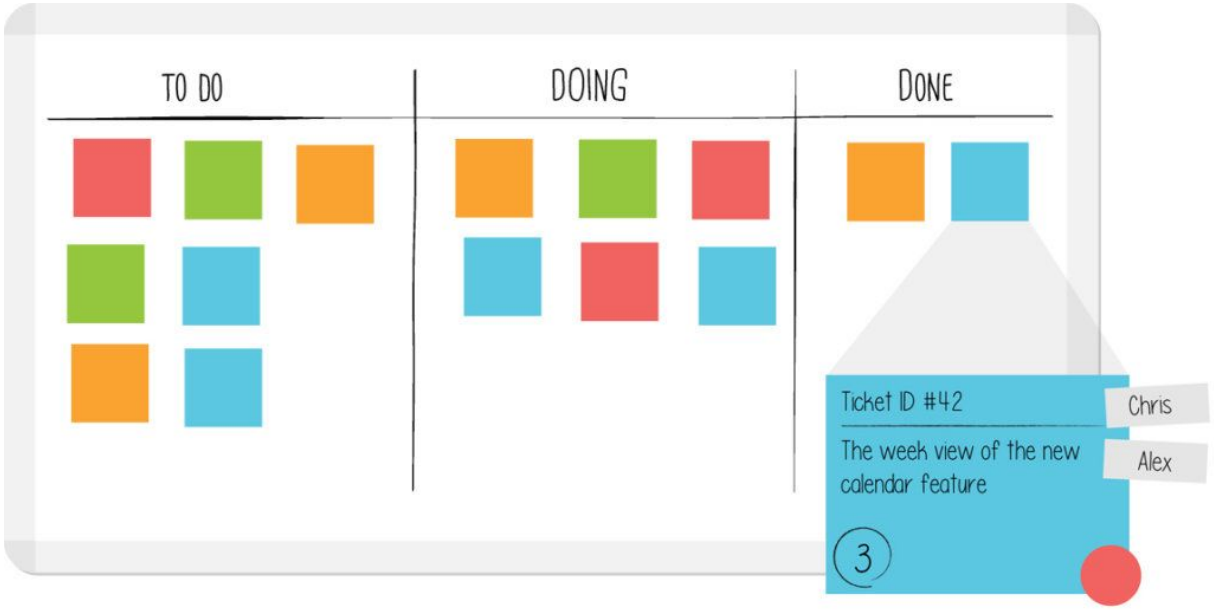

Figure 1 - A 3-column Kanban Board (LeanKit, 2018)

There are current web applications that utilise the Kanban Board technique for visualising tasks in a group. Trello is a web application in which groups of people can create, assign, and organise tasks. Instead of a physical board, Trello takes the Kanban Board experience online, as shown in Figure 2. Trello also has the option for colour tagging and commenting on tasks. Other applications to utilise the Kanban Board include Microsoft's Visual Studio Team Services and LeanKit.

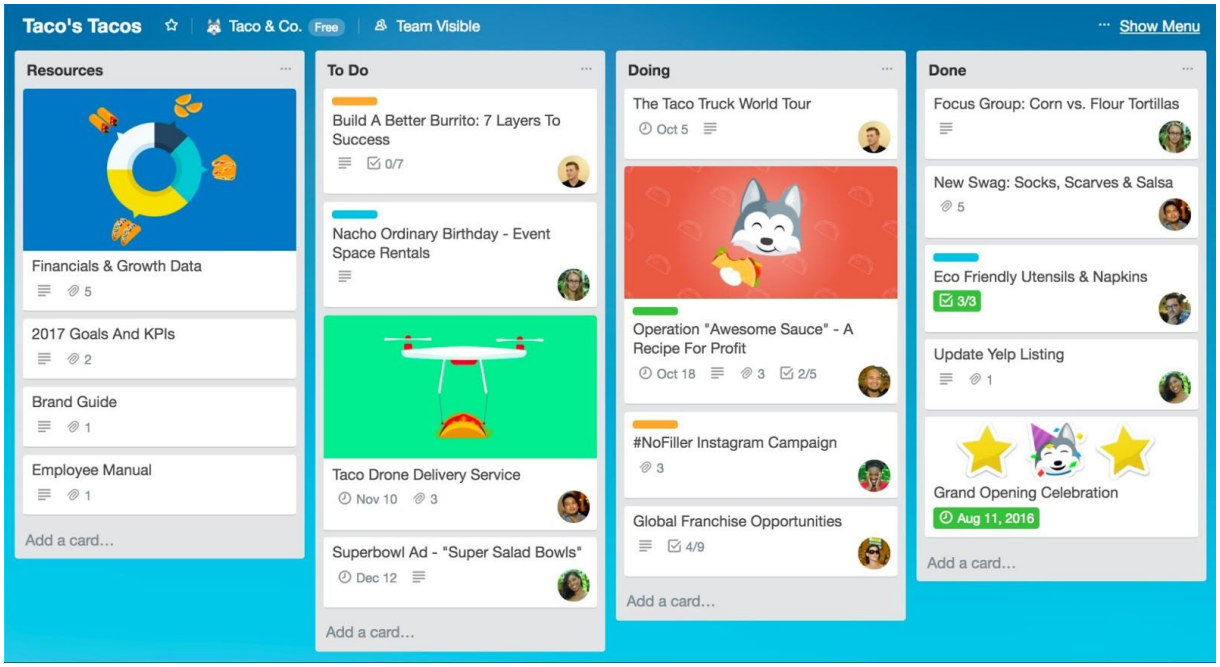

Figure 2 - Trello's Kanban Board implementation as a web application

With Cubits, we intended to explore the space of visualising tasks by what's to be done, what's active, and what is completed. We want to extend this concept beyond simple column and make moving tasks through stages more collaborative and playful. When a user is done with the tasks, they are forced to approach the master cube owned by the group leader. This means that the user and the group leader are encouraged to discuss the tasks that have just been completed or to be completed. The danger with the Kanban Board is that tasks are not discussed, but only moved along the board. With Cubits, we intend to not only improve task monitoring but to facilitate discussion of these tasks.

THEORIES

PERSUASIVE TECHNOLOGY

Persuasive technology is the idea that technology can be used to influence human attitudes, values, and behaviours. It is no doubt that the purpose of Cubits is to persuade the user to increase collaboration and focus on set tasks, so persuasive technology guidelines will need to be explored. Xu et al. (2018) highlight three challenges for designing persuasive technology, each of which have prompted strategies for the design of Cubits. These challenges are user acceptance, adapting the system to the user, and usefulness.

For user acceptance, they recommend designing such that compatibility is ensured with current technologies. Therefore, Cubits will use existing task manager applications for task management, rather than writing task management software from scratch. In the scope of this project, we will use Visual Studio Team Services.

For adapting the system to the user, they recommend ensuring that there is support for specialised and individual needs. Cubits will purposely have open-ended interactions in the interest of not replacing current workflow needs. Interactions such as organising open and completed cubes, stacking, ordering, and storing of cubes will be left to the user.

For usefulness, they advise that the design should capture the full scope of the user's lifestyle. All Cubits platforms will have a time sectioned for taking a break from work. They will encourage the user to walk around and get some physical activity. This breaks the monotony of office life, while also encourages healthy lifestyle habits.

Emotional Design

Persuasive design is difficult for people to adopt, so designing for emotion must be explored to make the adoption of Cubits easier. Plass et al. (2014) explored the emotional design space and how emotional design can facilitate learning. The first study found that designing for emotional design can induce positive emotions and in turn facilitate comprehension and learning. The second study discovered that round face-like objects and warm colours induced positive emotions, either independently or combined.

To account for emotional design, each cube in Cubits will have rounded corners, and warm colours to elicit positive emotions. We will also consider personification of each cube, featuring unique faces and names for each cube. This has the sole purpose of displaying friendliness, which we expect users will respond positively.

Papers

Strategies by research papers have been devised to mitigate procrastination. All of the following strategies will be incorporated or explored using Cubits.

Perrin et al. (2013) conducted a study aimed at reducing college student's procrastination. They found that when online study material was released non-contingently, the students tended to procrastinate reading the study material. If the same online study material was contingent, that is, ordering the study material such that the access to one depended on the completion of another, the study load was more even throughout the semester.

O'Donoghue and Rabin (2001) concluded that adding additional choices to a situation can worsen procrastination from those identified as having self-control problems: "A person might forgo completing an attractive option because she plans to complete a more attractive but never-to-be-completed option" (O'Donoghue and Rabin, 2001, p. 121). This means that limiting choices may help productivity, rather than hinder it.

This idea of the contingency of tasks is central to Cubits. We believe Perrin et al.'s study extrapolates beyond students into everyday work, and that choice overwhelms the user, rather than helps the user. Stacks of cubes are contained inside a pillar. It is purposely difficult to remove a cube from the middle of the stack. The only cube that is designed to be pulled out is the cube at the bottom of the stack. Therefore, the user is forced to decide what order to complete tasks. This planning of tasks will reduce choice to focus the user on a certain task.

Cubits harness the power of goal monitoring to encourage focus. Harkin et al. (2016) conducted a meta-analysis of 138 studies to analyse if monitoring goal progress increased the likelihood of reaching goals. The conclusion was that results overwhelmingly confirmed this hypothesis. In fact, the more monitoring that took place, the greater the chances were of success. In the same paper, they also discovered that making goal monitoring public also helped with motivation to reach goals. The tracking and publishing of personal goals were likely to promote behaviour change.

Each cube is roughly the size of a Rubik's Cube. These are purposely large for displaying on the side of a desk. This means that goal progress is displayed not only the user but for their neighbours. This makes goal progress monitoring hard to ignore, and made public for all to see. These two factors will increase inclination to complete work, as indicated by the meta-analysis.

Physical Computing Projects

Other physical computing projects have explored the space of removing distractions and creating focus. Encuro Blocks is a physical computing project by Chloe Fong to combat depression and anxiety. Encuro blocks help visualise problems, whether they are emotional or behavioural, so the user can identify and attempt to solve them. These cubes have three sizes to signify the size of the task. These cubes have magnetic properties, so that can be stacked and constructed as the user wishes. Each cube has a tag that is scanned by their phone with an accompanying app installed (Fong, 2016).

Cubits will also employ NFC technology to display information about each cube. NFC technology is useful for finding information about physical objects. The cubes themselves will have NFC stickers on one of the sides. The platform reads these stickers and displays the assigned task on an embedded screen. Using a phone to scan NFC stickers is not appropriate for an office environment, as desktop and laptop computers are more ubiquitous in these environments.

RE-Vibe is a wristband designed to keep you focused on a task. RE-Vibe uses an algorithm to guess if the user is being distracted or not. Whenever the device detects a distraction, the device sends a vibration signal that reminds the user to get back on track. The device also lets the user know when they need to take a break or to rest their eyes (FokusLabs, n.d).

We believe trying to get devices to detect distractions is a very difficult and non-useful way to get people focused on their tasks. Cubits will focus on making tasks seem easier, rather than making procrastination harder. However, the feature of RE-vibe that reminds users to take a break is something that can be incorporated into Cubits. This sets a clear distinction between break time and work time, which helps with resting the mind after hard work. A dedicated break time discourages breaks or distractions outside the assigned break time.

Audience & Context

As Cubits will be deployed in an office location, the project will be targeted towards users working in a company office environment.

Our project will consist of two user bases:

Office Workers

The first user base is the office workers who are individually allocated tasks to complete during their shift. The performance with office workers is directly correlated with how they effectively manage their tasks. We believe the way Cubits structures tasks and how it encourages sharing of tasks will prove to be effective for their workflow. These workers will use Cubits to manage and prioritise their tasks.

The office manager will give these workers a stack of cubes for them to complete. These cubes will have an order in which they need to be completed in (the cube that needs to be completed first will be at the bottom of the stack). The workers will then take these cubes back to their office in which they put these cubes in a pillar-shaped box. The box will have an LED screen that displays the tasks the user needs to complete.

Once the user completes a task, they will take the cube from the bottom of the pillar and place it beside the pillar to create another stack of cubes. Upon completing their cubes in the pillar, they will need to be returned to the manager. This back and forth between the worker and the manager encourages collaboration and keeps the manager in the loop about how the group is progressing throughout the day.

Planned Experience

These users are expected to experience improved concentration on their tasks, as each cube has a set time they need to be completed in. Cubes are also prioritised in a certain order. This helps users keep track of their workload. Having a certain order, also allows them to be become more organised in their workflow and thus, more focused on their tasks. Other workers will be able to visualise each other's work, which is expected to motivate them to keep to the set task at hand.

Whenever the worker needs the attention of a manager, they will shake one of the cubes. This will send a notification to the manager that a worker needs help. This breaks through barriers of asking for help and reinforces collaboration across group members.

Office Manager

The second user base is the office manager. The role of the office manager is to allocate tasks to office workers. Office managers value keeping track of goal progression, and helping out their co-workers whenever problems may arise. This user will use Cubits to assign tasks to cubes, prioritise these tasks and set a timer for each task. The office manager can also use Cubits to signal break time for workers. The office manager will give each worker a stack of cubes they wish for them to do, and the workers will deliver the task cubes back to them for evaluation and for loading up with new tasks.

Planned Experience

For office managers, they are expected to experience improved collaboration and focus on work allocation. This is done through the cubes as they managers have to individually assess tasks for each worker to complete. They will have a strong expectation of what each worker is supposed to do. They will also have full knowledge of what every employee is working on. This will allow them to ensure that all work for the business will be completed. Tasks that are lower on their time limit will be more visible to the office manager. This encourages the office manager to approach others and ask them if they need help.

Research Planning

While prior research has facilitated the development of Cubits, original research will need to be conducted to validate assumptions we have made about people and our target audience. Four themes have been identified as avenues for further exploration into the task management space. These will require interviews, inquiries, and usability tests with samples that represent our target audiences, such as real managers and workers.

Exploration Theme 1 - Task Management Behaviours

Firstly, we want to explore how people manage tasks currently. We want to find out how people organise, sort, and complete the tasks that they set for themselves because it is important the Cubits facilitates current habits and behaviours, rather than overhauls them entirely. Knowing current task management habits will help us align the device to their existing workflows, and give us a warning to when the device will disrupt established traditions and habits.

Answering these questions will require a literature review of task management, analysing what insights have been made to goal monitoring and task management. It will also require a face-to-face interview with both employees or students who value an optimised workflow and an appreciation for managing and monitoring tasks. These two methods will reveal what strategies people use for task management, and also will reveal the extent to which group work is collaborative. These insights will show if there is a real need for better goal monitoring and collaboration and if Cubits would be the right solution for that problem.

Exploration Theme 2 - Group vs Individual Task Management

Secondly, the difference between group task management and individual task management needs to be explored. We want Cubits to be suitable for both contexts, but there is a risk that these two contexts have radically different behaviours and needs, and Cubits might lack in satisfying all of those needs.

To account for this, we will need to interview those who work in a group environment, and those who tend to work individually, such as students. We will find people who work in an office setting and ask them a series of questions related to how they manage their tasks. The answers will help determine if designing for both individual and group work is plausible, or if further refinement on the scope of the project is needed.

Exploration Theme 3 - Daily Office Behaviours

We want to see the daily behaviours of typical work environments. What distractions are apparent in an everyday office environment? What is the relationship between the manager and the worker? How do they prioritise tasks, and how do they adapt to changing needs? It is important that the design of Cubits will take into consideration subtle values, behaviours, habits, and traditions of a typical work environment. Otherwise, workers will be less inclined to adopt a new device into their workflow.

This will require an ethnographic study into the daily life of an office worker. This will involve watching how typical users use the Cubits device. Notes will be taken on behaviours that relate to the above questions. These notes will advise the further development of the device that considers the space and context in which the device is being placed in. It is important that this research is done early before changing the conceptual model of Cubits becomes too costly in time and resources.

Exploration Theme 4 - Company Values and Flexibility to Change

Finally, most companies are typically less inclined to adapt to change. How would companies react to the introduction of a physical workflow management system? Is there a conscious need in the workplace for enhanced collaboration and goal monitoring? Would companies be willing to restrict their task management capabilities in favour of a more playful and interactive task management system?

To answer these questions, we will have to conduct a usability test of a prototype version of Cubits. Cubits will be introduced to a group work scenario and notes will be taken on their approach to using the device. Any conflicts with the device and expected behaviours of the office environment will be especially noted. It is important that the planned experience is a positive one for them and that they are encouraged to keep using the device.

Project Constraints

Project risks and constraints have been considered, and strategies have been devised to mitigate these.

Overhauling task workflow

The concept of Cubits is to change the workflow of workers in an office environment. Cubits will override the indigenous way of managing tasks in a workspace hence altering the workflow. We will be conducting usability tests with a prototype of the device within a typical work environment to observe for Cubits fit into the expected use of context. These tests will reveal the impact of cubits on a workspaces workflow.

Anxiety from overdue work

Cubits are designed so you can see your accomplished work in a visual and physical format. While Cubits can help the user see the amount of work they have to do during their shift, the same can be seen for work that is overdue. Cubits could cause the user to become anxious when overdue work starts to pile up. It could also cause embarrassment when workers walk by and notice the large pile of overdue work at a workers desk. To mitigate this, the cubes that are overdue would subtly vibrate every so often, to remind the user that it needs to be completed. We will avoid the use of harsh colours to show overdue work.

Dictation of tasks

Not all work managers wish to dictate tasks to each employee. If the company has a large number of employees, it would be near impossible for the boss to have the time to dictate tasks to each employee. Cubits aim to target companies that work in small teams. The employees have the potential of adding in the tasks themselves. This would allow each worker to self-allocate their tasks and remove the need for having the manager dictate tasks altogether. Observations with typical users will be taken to see if managers are more likely to dictate tasks with the introduction of Cubits.

Situational for different environments

Not all employees work individually. Some work areas could involve multiple people to work on the same task. In this instance, these employees could also allocate the tasks to their group. It could be possible that large tasks could be broken down into smaller/easier duties. Each team member could have their own set of cubes with their own set of small duties to complete.

Skill Level

Our team consists of two software developers and two UX/UI designers. Our team isn't very experienced in hardware development, and this may prove difficult for our team. Our entire team will dedicate time to research, learning and prototype hardware parts to fit the project. We will ensure regular communication to ensure that whenever we feel out of our skill level, we will ask for help either from other group members or the course staff.

Funding

Our team is limited to a certain budget for our project. Each team member will contribute at least $200 per person. With four people in the group, we will have a minimum budget of $800. We will keep records of all purchases with a spreadsheet and will consider any means to reduce costs.

Resources

Our team is limited to the resources that we can make and buy. Our team does not have access to 3D printing software and are unable to use advanced machinery to make custom-made cubes, pillars and platforms. We plan to purchase materials and construct prototypes ourselves.

Timeframes and deadlines

Our entire prototype will need to be completed and ready to be shown at an exhibition within 14 weeks. This means that the team will need to show and complete a capable and functional prototype within this time frame. This short period will only allow us to build a 'working' prototype of our proposed concept and not a fully marketable product.

Each member has dedicated individual time to work on the project each week (see work hours below). Our team will also meet up at certain times within the week the update each other on our current progress.

There is a risk that we are not able to reach deadlines, to account for this, we will use a 'lean' method of development. We will establish a Minimum Viable Product that we would be willing to present at the exhibit. After developing such a product, we will slowly add additional features to the product one by one. This means that at any point we can present our work, even if some features are not complete yet. If we feel overloaded with work, we will fall back to a previous version of the final product.

Relevance to Theme

Playful Interactions in Everyday Life

Humans are built for play. We like to have new experiences and explore new ones. In everyday life, however, tasks begin to become menial and boring. They rarely account for our natural inclination to try new things or to explore new possibilities. Playful interactions are an essential way to not only entertain people and break the monotony of everyday life but to also get people to reflect upon their human values. But what makes a design playful? And how can you design something to be playful?

Bekker et al. (2010) outlined three 'design values' to developing playful interactions. The first value is 'Motivating Feedback'. Interactions need to gratify the user for their behaviour and persuade them to be more involved in the product. Cubits provide motivating feedback whenever a task is completed. As the user pulls out a cube, the pillar collapses and plays a sound. The cube stops glowing to signify that it is done. This provides instant gratification for completing their assigned tasks.

Second is ‘Open-ended play’. This is the philosophy that interactions should be kept flexible, and not constrain the user too much to a hard rule or goal. Cubits provide plenty of room for interactions beyond the ones expected. It is up to the user how they want to organise their cubes, whether it’s stacked or placed into a pile. Cubits can also be stored for later, or shared with other people. They are soft and durable enough to be thrown, caught and dropped. This flexibility provides room for users to innovate with new usages for the product.

Finally, there is ‘Social interaction patterns’. Design such that the product influences the way in which people interact with each other. The entire premise of Cubits is to enforce collaboration in group work. Physical cubes force tasks to be physically handed to in person, reinforcing the idea that good work comes when everyone is physically present and communicating with each other. Cubits provide a way to visualise the progress of other group members and to publicise your progress on your tasks. This influences other group members to come up and help, or to congratulate them if they finish many tasks.

Human values and Physical Computing

Human values are principles in each of us that guide our decision-making processes. They guide our actions, our goals, and our interactions with other people and objects in our everyday world. Human values can either be formed by current beliefs that we hold, or motivations to future goals that we strive to reach. Human values may differ for each person, but we all strive to maintain the best human values and to find better principles for living our lives.

As these human values guide every decision we make, it is important that we design for such values. It’s in the users best interest to maintain and better their values, and it’s in the designer’s best interest to design for human values to ensure long-term usage and to positively influence human behaviour.

Computing has overhauled the way in which we work and play in our daily lives. Some say that with the advent of computing and social media, we have lost our abilities to socialise and empathise with each other. Physical computing brings out the best of current technologies, while still keeping intact what makes us human by making us work and interact together in person.

Creating Focus

Our chosen theme is "Creating Focus: Removing Distractions and Getting Things Done". Shwartz (1994) is a social psychologist credited with creating the "Theory of Basic Human Values". He tries to identify universal values, and if so, what they are. Among these universal values he identifies human values which are prevalent across most if not all kinds of cultures:

Achievement: success, ambition, influence, intelligence.
Self-direction: creativity, freedom, independence
Benevolence: loyalty and responsibility
Conformity: self-discipline and obedience

Working hard is essential for feeling true to human values. However, it's in our nature to put hard tasks away for later. Our human values and human nature often compete with one another. That's why reminding people of their human values is so important to develop discipline and order. Cubits remind people to get to work through breaking down tasks and defining their order. It provides as much service as to can to make these tasks easier for everyday people.

Project Completion Plan

Milestones are categorised by week. The tables below detail various aspects of each milestone. 'Duration' refers to how long preparation should take for each task. Each milestone is assigned a leader who takes responsibility to get the task done. 'Resources' describes materials needed beyond regular study materials such as laptops, internet, and Microsoft Word.

Week 6 (19th March - 26th March):

Milestone	**Day**	**Duration**	**Leader**	**Description**	**Resources**
Finish Prototype Plan	Fri	1 week	Chris	Settle on features to implement the prototype, allocate roles, plan out resources and budget.	None

Week 7 (16th April - 22nd April):

Milestone	**Day**	**Duration**	**Leader**	**Description**	**Resources**
Finish Prototype	Fri	2 weeks	Damian	Construct physical prototype, pillar and platform.	Materials or constructing the prototype (roughly $200)
Finish Requirements gathering	Fri	2 weeks	Chris	Finish data gathering on the target audience. Complete interviews and ethnography study.	Interview questions, and a user sample willing to participate in the project.

Week 8 (23rd April - 29th April):

Milestone	Day	Duration	Leader	Description	Resources
Prototype Presentation	Thu	3 days	Chris	3 rehearsals for the final presentation. Ensure that the presentation content flows well.	The finished prototype, finished script and slides.
Finish Hardware plan	Fri	1 week	Nikhil	Lay out what part are needed, what technologies we will use. Purchase the required parts online.	Around $600 of the budget.

Week 9 (30th April - 6th May):

Milestone	Day	Duration	Leader	Description	Resources
Project Appraisal	Mon	1 week	Richard	Produce appraisal document evaluating our project process and product.	Criticisms from the presentation.
Test prototype	Mon-Fri	2 weeks	Chris	Conduct usability tests with the prototype within a typical use context.	Consent from sample users, recording device.

Week 10 (7th May - 13th May):

Milestone	Day	Duration	Leader	Description	Resources
Develop Website	Thu	2 weeks	Richard	Develop a website demonstrating the product.	Web development software, a means to host the website.
Finish Hardware Development	Fri	4 weeks	Nikhil	Finish all major functionality of the hardware. Finalise look and feel of the product.	All hardware parts, all materials.

Week 11 (14th May - 20th May):

Milestone	Day	Duration	Leader	Description	Resources
Present Website	Wed	3 days	Damian	Present the website to the class.	Finished website.

Week 12 (21st May - 27th May):

Milestone	Day	Duration	Leader	Description	Resources
Submit Website	Thu	1 week	Richard	Fix website bugs, polish content, and submit.	Finished Website.
Finish Software Development	Mon	3 weeks	Chris	Finish all major functionality on the software side.	Finished hardware development.
Finish Bug Fixing of Software	Fri	2 days	Chris	Fix as many minor bugs as possible.	Finished software development.

Week 13 (28th May - 3rd June):

Milestone	Day	Duration	Leader	Description	Resources
Exhibit	Wed	1 week	Damian	Design exhibit presentation, ensure all functionality works.	The final product, and a plan for presenting.

Work Hours

All of us will be required to work on the project at the time outlined in the table titled 'All'. Each one of us will have to contribute 10 hours of our own time to equal at least 24 hours per week of work each person. Work hours in 'All' will be done together in the same place. This ensures communication between team members. Any team member that deviates from these hours should notify the team to make special arrangements.

Due to circumstances that can happen week by week, we will tend to overbook these hours. This leaves room for unexpected events that may reduce our time available for that week.

ALL

Day	**Time Start**	**Time end**	**Duration**
Wednesday	11am	4pm	5 hours
Thursday	11am	4pm	5 hours
Friday	9am	1pm	4 hours
Total			**14 hours**

CHRIS WILKINSON

Day	**Time Start**	**Time end**	**Duration**
Wednesday	9am	11am	2 hours
Thursday	9am	11am	2 hours
Saturday	10am	6pm	8 hours
Total			**26 hours**

DAMIAN LEUNG

Day	**Time Start**	**Time end**	**Duration**
Wednesday	9am	1pm	4 hours
Thursday	9am	11pm	2 hours
Friday	1pm	9pm	8 hours
Total			**28 hours**

YONGRUI PAN

Day	**Time Start**	**Time end**	**Duration**
Tuesday	9am	12pm	3 hours
Thursday	9am	11pm	2 hours
Friday	1pm	9pm	8 hours
Total			**27 hours**

NIKHIL RANJAN

Day	Time Start	Time end	Duration
Monday	9am	1pm	4 hours
Tuesday	9am	1pm	4 hours
Saturday	10am	3pm	5 hours
Total	-	-	**27 hours**

Team Contributions

CHRIS WILKINSON

I will be primarily responsible for software development. My roles will include choosing the most relevant programming languages, libraries and technologies for the product, and maintaining the software code base. Secondly, I will be in charge of managing all documentation. This means setting up templates, delegating writing tasks, and conducting grammar and spelling checks for all written documents.

My strengths include research, documentation, software development, and project planning. These skills reflect the agreed team roles. My weaknesses are in sketching, crafting, hardware development and product design. I will leave these tasks to other team members.

Damian Leung

I will be responsible for user experience design for the project. My roles will include researching and observing targeted users. It also includes enhancing and improving the usability of the prototype. This will involve me crafting prototypes and conducting user testing.

My strengths include user experience design, user research, user interface design and front-end web development. My weaknesses are backend coding and software development. In my team, I will be responsible for designing the appearance of Cubits, and all sketches to appear on the website. I will help Richard with developing the front-end HTML and CSS of the website.

Yongrui (Richard) Pan

I will be responsible for user interface/user experience design. My roles will include user researching, user interface designing, wireframing, prototyping and front-end development.

My strengths include visual design, user interface design, user experience research. My weaknesses are in back-end development and hardware development. I will be responsible for developing the website. I will develop the idea for the website and maintain the code base. I will also be responsible for the content for the website, such as the problem space, and how the product works.

Nikhil Ranjan

My main responsibility will be the hardware side of project development. This will involve working on the project alongside with Chris with software programming. Additionally, I will help with report writing and resolve group conflict should they arise. I will also be in charge of taking minutes of meetings and keeping our social media platforms up to date and organised.

My strengths include previous experience with Arduino and Raspberry Pi hardware. I am willing to assist with other group members with UX and UI Design since I enjoy and have good experience in these areas. My weaknesses include not being good at the documentation side of things and also may need to refresh my knowledge of back-end coding.

Response to Sketch/Presentation Criticisms

Based on the feedback from the previous presentation, three key refinements have been made to the project:

Greater Representation of Tasks

A couple of critiques said the Cubits should have more representation and effect for attracting users' attention. Rather than changing colour, several other representations, including shaking, blink and sounds will be utilised. However, other feedback considered that there might be an interruption in work if the reminding is too glaring and frequent. Thus, how to make the reminding both gentle and effective is quite important. A "Do not disturb" mode will be implemented to help users control the prominence of the device to their needs. When the Cubits are in that mode, they may only display basic information of tasks and keep a minimum level reminding.

Increased Representation of the Order of Tasks

Some critiques noted that there should be a clearer way to visualise the order of tasks. The cubits will have a function of showing the what task user need to do next. We would display a label on one side of the platform such as "2/5", which means it is the second task of the all five tasks in a day. Users would know the order of their tasks and also see the number of tasks they have already completed. This would motivate them further to complete set tasks.

Designing for Positive Emotion

Several of those who wrote feedback were concerned that constant reminders of the work by authorities might produce greater stress to users. Thus, we would explore introducing a function that users can show their emotions on the cubits. Users can choose an emotion on their own, and these emotions can be seen by their coworkers and boss. This may help to keep their work pressure within a reasonable range.

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