Coursework 2: The Process
Date set: 25/11/2022 – 12 pm (UK time)
Date due: 23/12/2022 – 12 pm (UK time)
Weighting: 50%

Goals for this CW:

- Apply the user interface knowledge we have learnt
- Experience the interaction design lifecycle as a group
- Design, evaluate, and develop a complex GUI application in Qt
- Present your research in a written report
- Demonstrate the process of each iteration in a short video (circa 1 minute)
- Create a short (circa 1 minute 'showcase' video of your final product
- Produce a 6 page Written Report (including images)

Your task:

- You will build a video player / editor in Qt
- Your group is provided with the *Tomeo* Qt prototype, as starter code for your first iteration for the following opportunity:

THE SCENARIO

Based on the recent success of simple video player/editors such as CapCut *(aimed at teenagers / young adults) Marketing and our Product Owner have suggested we create a prototype app (MVP) offering a similar range of functionality.*

This meeting was last week, we need to create a prototype to present at the next Senior Leadership Team meeting. It's a short turnaround (again, sorry everyone:), only three weeks until the next meeting.

In our Product Development meeting, your line manager suggested we first build out on a previous prototype 'Tomeo' *that our company trialed for an 'outdoor enthusiasts' video player/editor app, as a first iteration proof of concept. While the UI needs some work, the Qt/C++ functionality provides a useful and sufficient framework to get started.*

We can aim to continue refactoring the Tomeo code or after sprint iteration 1 you could create totally original code once familiar with the apps video handling structure and approach. The product owner and marketing don't really care about the

codebase (as long as it's in Qt), they just need a working protype proof of concept, ideally something we can interact with and demonstrate.

As this is a global product what they do care about is Universal Usability & ideally some Internationalization.

As we've got several dev squads at various international offices working on this, you will get feedback on the 2nd iteration from another dev squad, just a short questionnaire will be fine. Can I leave you to arrange those please, don't forget to show where you've implemented their suggestions in your 2nd video, it's good for team morale and workplace culture.

前两次迭代过后就要让用户加入进来了
（类似agile）

As there will be a Dev Lead and a VP joining the meeting, they've asked if we can produce three short videos, around 45s-1.20m each, documenting our weekly sprint iterations and outcomes.

每次迭代都录视屏 记文档

类似服务外包的视频
1；30-2；00min

Some bright spark (ok, it was me) suggested it would be cute to create a final Showcase video (1m-1m30 of your final MVP prototype app to demo functionality.

The app is mobile & or tablet first but a desktop version is something we want to aim for as well. Lets focus on a responsive mobile UI first, you could always include a video screengrab from the app in the Showcase.

Any questions, just get in touch with me on the usual channels…

我们需要做三端适配
主要是手机端
注意层次的一些设计

Getting started:

- Before the first iteration, everyone should get the *Tomeo* prototype running.
    - Open the zip file and open the .pro project in QtCreator. You will probably have to configure Qt (consider setting some initial internationalization language options here):
        - On Windows use Qt 5.13 to use the multimedia plugin
    - Run the project. When a dialog pops up, click yes to open the video files. Extract the videos and set the absolute path of the *videos* directory as the first command line argument to the project.
    - Run the initial Tomeo prototype in Qt Creator, explore its (limited and buggy) functionality.

- Explore the code. In particular note the following classes, and read any Qt documentation you need to:
  - *tomeo.cpp*: contains the main method and creates a list of video files that have thumbnails.
  - *the_button.cpp*: a subclass of `QPushButton` which shows the icon, and has a signal (`jumpTo`) that is fired when someone clicks it.
  - *the_player.cpp*: a subclass `QMediaPlayer` which controls the playback of the video in the `QVideoWidget` class.

- By this point you should already be in a group

- **Group sizes**. There are **5 people** in each group
  - Make contact with your group on Minerva; ensure each member has made contact (contact Samson if not).

建一个teams的组

- Arrange a first meeting time with your group members as soon as possible, online or in person.
- In the first meeting:
  - Document this meeting (take turns making notes in each meeting)
  - Exchange contact details with your group members, set up a shared code repository (e.g., git, GitLab, Github….), and a platform for shared process documentation (e.g. Office 365, Miro.com, githubPages etc.).
  - Arrange a number of weekly times to meet, discuss and update each other on your progress (also async via MS Teams) throughout.
  - Explore the initial *Tomeo* prototype together.
  - Develop your requirements. For this coursework you should invent realistic requirements for yourselves, rather than considering gathering data:
    - perform an initial *analysis* to scope the possible requirements
    - construct use-case *scenarios* for your system
    - plan, eg with a shared Kanban Board, your first iteration (& repeat for the next two iterations)
  - Present and discuss alternative designs that satisfy your use-cases.

miro 用来贴图
word写文档(会议文档)
kanban 文字记录
(to do list
workflow)

自己的需求
一个细致的需求文档

一个 use case 图

针对每一个
use case 写多个界面
(界面分析也要写到
文档里面)

- You will then complete at least 3 development *iteration cycles* of your app before the due date above. For this coursework, one iteration consists of:

  i. prototyping an improvement
  ii. implementing the prototype
  iii. evaluating the prototype

每次迭代
都要包含
的内容

评估
1；队内评估
2；User评估
(借助和同类产品对比等等)

第二次开始就换为自己的
第一次就嗯写
第二次就是designer+功能

- For iterations 2 & 3 there is **no requirement** to continue with the *Tomeo* starter code but you are welcome to do so if it simplifies the process

- You will create process documentation throughout the project that will be the foundation of your report - detailing the design processes with a range of the following suggested approaches:

1. Approaches to analysis based on the UI Lecture material provided, use-case scenarios, constraints and the prototypes which refine your iterative requirements.
2. Further material for the report could include the platforms you are targeting (desktop, mobile, web, etc…), with images that support and demonstrate (if implemented).
3. All our *development* will take place on the Desktop with Qt and C++, but we can easily *design* for other hardware / software.
4. Examples of content for your group report should include examples of each cycle (these examples are not compulsory or limited to), e.g.:
   i. prototypes
      a. Writing describing the goal of this cycle and the reason this was selected as the highest priority.
      b. the name of the prototyping technique and any software used (technique: sketch, wireframes, video, native…. software: Photoshop, Gimp, Qt Designer, etc…)
      c. Writing highlighting the theoretical motivation behind the design shown in your prototype(s).
      d. Writing providing justification for the chosen group working technique (eg Scrum, Agile).
      e. Writing providing evidence for the chosen group working technique (including, photos, screenshots of the Kanban board, etc...).
      f. Writing exploring the design and the process and evolution (including photos, screenshots of wireframes, paper prototypes, etc...)
   ii. code
      a. Writing illustrating the UI improvements
      b. a table describing differences between the prototypes and the implementation (improvements, time constraints or technical difficulties).
   iii. evaluation
      a. the name of the evaluation technique used (heuristic evaluation, cognitive walkthrough, questionnaire, etc...)
      b. Writing describing why this technique was chosen.

需要一个人把UI中的所有重点的新奇的设计原则和开发原则总结成一个文档

测试文档

每次文档都要记录：右边

目标以及优先级目标的原因

用到的方法和各种软件

和ppt中的某个点呼应

工具的好处

以及开发方式的证明（一些屏幕截图）

开发工具的好处
我们探索的产物（截图等等）

a.impl
b 写出来和实际图的

按照ppt里写到评估方式来进行评估

为什么要选择这样的评估方式

三端适配的设计图

总评以及原因

c. Writing describing the outcomes of the evaluation and whether the changes this cycle were accepted, changed or rejected (and why).
d. evidence of the evaluation (a table of the results, anonymised images of the evaluations, etc...)

6. Three videos. Three 45 - 1m20s demo videos that can be submitted documenting each protype/sprint. They should illustrate the main ways they satisfy your requirements.
7. One video 1m-1m30s showcasing your work (examples of these can be found at the end of this document)
8. An ethics statement, explaining how you complied with the university regulations for ethical research with people. Include the information sheets and template consent form(s) any participants have completed. Do not include the completed forms themselves.
   How and why you should do this will be covered in an upcoming lecture.
9. A README/HOWTO of how to run your software.

Notes:

- Ask questions on MS Teams main channel as usual.
- The page limit on documentation is intended to make you choose your language and conclusions carefully.
- A page may be 1 or 2 (double) column, in an 11-point *sensible* font.
- Paragraph structures are typically 1-2 statements giving an overview, followed by 6-8 sentences *supporting* the statement.
- The writing should illustrate your understanding of UI theory, iteration processes and terminology learnt throughout the module.
- Note that our emphasis here is not focused on writing totally original code as the final output. We care (and award marks for) the design process you go through, the effective UI and the (limited) functionality of your app. It is acceptable to reject the result of an iteration if there is a well presented reason. In *Scrum* we often speak of 'fail early, fail fast.'
- Examples of iterative development could include:
  - … the workflow (e.g., how to demonstrate group working and collaborative decision-making during iterations – Kanban is good)
  - … wireframes of initial and ongoing designs
  - …the visual design of the system (e.g., colours, spacing, icons, menus etc.)
  - …a flowchart or mindmap etc. showing proposed video functions.
- We are developing a prototype, so it is acceptable for certain parts to be partially developed. You should develop all necessary components of the system to evaluate the central concept of your weekly iteration. However much peripheral functionality may be partial. For example:

- A "load" button may just show a dialog saying "you selected a video" before showing the loaded video, rather than creating a full file chooser.
- A range of effects and tools can be ‘just’ buttons / menus
- Video thumbnail images may be loaded from disk rather than computed (the given prototype does this).

- You could consider running different iterations in parallel (at the same time) to spread the work between group-members, as long as iterations are branched then merged into a single code base if successful. For example:
  - different people could perform parallel cycles to prototype, evaluate, and code the layout of the home screen - then one is picked to be used.
  - different components could be built by different pairs of people - a dialog box could be a parallel cycle to the main screen visual design.
  - Keep backups of everything

每个人都是全栈—我们可不行

大家做不同的部分

git和朴素的本地压缩包

- All multimedia (video, still images, audio including potential sound-sets) should be submitted within your final zipped submission (due 23rd December 12pm).

后面的版本加入音效

- We do not assess the quality of videos (noise, camerawork etc… they are beyond the scope of this assignment). But they should be clearly understandable on a first viewing when the accompanying presentation is delivered. There is no requirement for your videos to contain an audio track but if they do please may they contain subtitles.

- Use a sensible and consistent code style. Ensure comments are helpful.

Marks will be awarded for:

- The quality of your scoping analysis and scenarios for the given task.
- The quality of your prototypes and evaluations, as well as how well they match your chosen scenarios.
- The application of a wide range of ID/UI/UX theory (as taught in the module) to your motivations/decisions.
- The variety of prototyping and evaluation techniques applied.
- Completing at least THREE cycles.
- Developing significant and creative improvements to the Tomeo application which match your scenarios.
- The quality of your code.
- The quality of your documentation process and writing, including:
  - structure
  - arguments and supporting information

- Your ethics compliance documents

Contributions:

- All members of your group will be assigned the same mark, peer assessed contributions of group members via *peermark* will be additionally submitted.

To submit the documentation:

- Your submission should be a zip file containing:
  - A PDF & also MS Word document for the written report
  - your final code
  - A TXT file for the README/HOWTO of your software
  - Signed and scanned evaluation forms
  - Signed and scanned participant consent forms
  - All media (videos, images, audio files, soundsets etc.)

- Name your zip file with your groups student ID's, e.g.:

```
scsjbr_scs22pop_sc21ghj_sc49ksh_sc88xyz.zip
```

- A single member of your group should submit the zip file by the deadline listed at the top of this page via Minerva