Portfolio Abstract

Contents

Proof

The Experience (Pressure Cooker)

Learning goals	Proof
Student is knowledgeable and demonstrates an understanding of how Interaction Design, Experience design and Concept Development techniques can be applied in an integral way.	UX & IxD Research (see 'Augmented Reality' & 'Interaction controls & methods' pdf's) -> I researched how to provide a better user experience when designing an AR oriented app. This theory was (partially) applied in Sprint 4 and Sprint 5 of the group project when designing & developing an app for the AR glasses. Design sprint method (see 'Design Sprint method' & 'Design sprint results' in Sprint 1, Sprint 2, Sprint 3) -> I used a method called 'Design Sprinting' that helps ideating/developing concepts.
The student can work in a group on a prototype demonstrator with a mobile component taking external stakeholders into account and present this in a convincing way.	Design & Develop – Group Project (see 'Developing the front-end') -> I designed and developed the GUI in Android. Development & Testing - Hybrid Project (see 'Concept', 'Analysis' and 'Personas' in Design Document) -> I designed and developed a prototype in the form of a mobile app together with Marco. We demonstrated the prototype and explained how external stakeholders could use it for their benefit.
The student can transform a concept into a tangible testable prototype, where test results are processed in an iterative way where the products consist of both functional and non-functional elements in a balanced way.	Design & Develop – Group Project (see 'Testing') -> I designed, developed and tested the GUI.

Minimum Criteria	Proof
Concept is explored and presented in a convincing way using a plethora of means: Persona's, scenario's, storyboards, moodboards/films, sketches, low fidelity prototypes, high fidelity prototypes, technical demonstrators and user tests.	Sprint 0, 1, 2, 3 ,4 ,5 of the group project -> Created persona's, user scenario's, storyboards, paper prototypes, technical prototypes and performed user tests throughout the sprints
There is a strong relation between concept products and the final concept. To be more specific: you should be able to explain how concept means were used to refine the concept.	Sprint 1 (see 'Design Sprint method') -> the design sprint method was used to iterate the concept. New ideas were generated in Sprint 1, 2 and 3 which ultimately shaped the final concept.
The concept should be created in an iterative way. Changes per iteration are well supported.	Sprint 0, 1, 2, 3 of the group project (see the products and evaluations) -> In Sprint 0 we found out that Zenya had a very broad target audience. This was narrowed down to users of the healthcare field (read the evalution) so the concept was focused on letting them find and consume information. In later sprints the focus was placed on other more specific use cases like a security guard (Zenya is used in risk management) and more user goals were added (e.g. not only consuming info, but also updating and sharing it).
The concept is validated and tested with at least three external stakeholders.	Sprint 3 Infoland Testing (see 'Infoland visit') -> The concepts have been validated with Zenya experts. They have the most knowledge about their user's needs and goals. Three paper prototypes have been judged by them. One concept (the 'Zenya Doc Printing') was in a way already applied by Infoland so that concept did not pass. The other concepts were validated by the Zenya experts and they gave feedback so that we could try to improve the concepts.
Presentations are well prepared and all elements integrated in one product.	Sprint 2 presentation -> Presentations were planned every 2 weeks. The same presentation slide design with the same content of tables/structure so that the client knew what to expect at every presentation. I helped edit and add content to presentations.
The concept presentation is supported by a convincing tech demonstrator/prototype, showcasing one or more key features of the concept.	Sprint 3, Sprint 5 -> when we visited Infoland we showed some of the key features

	(finding, consuming, sharing information) that have also been showcased at the final presentation in a final prototype.
Student shows usage and understanding of the DOT research framework during concept creation.	Sprint 1 (see 'plan of action' in the research PDF's) -> In every research document I described what type of research strategies from the DOT research framework I was going to apply. For every sprint I also mention/show what types of DOT framework research strategies I applied.

Bonus

We'd love to see you try more	Proof
The concept is extremely innovative. Existing alternatives are explored to further highlight the unique properties of the concept.	See 'Group Project' -> The concepts for the group project were (in my opinion) extremely innovative since I've not seen anyone use AR glasses before.
User testing went above and beyond regular testing with all relevant stakeholders.	See 'Group Project' -> did a lot of different kinds of testing at Infoland with Infoland employers who worked on their Zenya product; tested technical prototypes of the AR glasses and the smartwatch, tested the paper prototypes which explained the concepts.
The concept is presented in such a way that it is ready to be used by external parties to start developing.	Design & Develop' (see 'custom styles') -> explained how I made the code manageable. I also always kept my research documents and designs organizable which included making use of a good folder structure in OneDrive.

Hybrid and Native Development

Learning goals	Proof
The student can create a multiplatform hybrid mobile app using a wide diversity of techniques and platforms	Development & Testing – Hybrid project (see 'Dev environment & tools' and 'Result') -> I designed and developed an app for two platforms: iOS and Android
The student can create a backend system to support the app's data needs	Flutter for iOS ('see Flutter for iOS) -> Didn't create my own backend system, but made use of Firebase instead since it's supported well especially in combination with other Google services like Flutter.
The student can use a CVS system to support the development process	I always used Git to manage my code projects. See the 'Development' or 'POC' products in my portfolio
The student can support and reflect on technical and design decisions	Hybrid research (see 'Research hybrid development frameworks' and 'Research livestreaming SDK') -> In this research I support technical decisions e.g. choosing to use Flutter for development. Development & Testing (see 'Evaluation') -> I reflected back upon the decision to use Flutter Designs -> I explained why I made certain decisions in the design process (e.g. making a low-fidelity prototype first). I also reflected back on this (see 'Evaluation')
The student can apply more complex native Android and iOS development techniques	Development & Testing – Android project (see 'SDK's & Libraries') -> I used a beacon library and applied my own functions to make it more suitable for my app concept
The student can create a suitable number unit tests to validate the quality of the products	*Angel showed me how to do unit testing and I performed one. I did some research afterwards and I noticed that unit testing is mainly used for long term projects where code has to be maintained optimally unlike very small projects/POC's so I chose to not do any more unit testing and instead prioritize other activities.*
The student can create native apps that are suited for multiple types of devices (f.e. phones and tablets)	Android: Design & Develop (see 'Result') -> I used layouts that are responsive

	so that a user could also use the layout on a differently sized device or in portrait mode if for some reason the need arises. iOS: Workshops (see 'Result) -> I used SwiftUI which encourages responsive apps. The Scrumdinger app's layout will look good on an Ipad or different iPhone.
The student has explored at least two backend technologies, one being from scratch (i.e. no FireBase)	Flutter for iOS ('see Flutter for iOS) -> Didn't create my own backend system, but made use of Firebase instead since it's supported well especially in combination with other Google services like Flutter.
The Hybrid client runs on at least two different mobile platforms	Development & Testing – Hybrid project (see 'Dev environment & tools' and 'Result') -> I developed an app for two platforms: iOS and Android
The Android app contains at least: Customviews, Asynctask, Actionbar, Fragments, Animations, libraries/contentproviders,broadcastreceivers, services and Webview and the student can explain the workings of these elements and how they were applied	Exploring Markup & Styling – Android -> applied fragments, custom themes, drawables, layouts, components Kotlin logic – Android -> Layouts & Toast popup animation
The iOS app contains at least: Universal App (autolayout/adaptive layout), simple CRUD actions using a webservice, iOS Maps, Social media integration, advanced views (UICollectionView, master detail views), AVFoundation, notifications, Webkit/Javascript bridge and the student can explain the workings of these elements and how they were applied	Workshops – iOS -> applied layouts, navigation, accessibility and more
Student shows usage and understanding of the DOT research framework during product realisation	Sprint 5 (see 'custom styles') -> did (desktop) research on managing Android repo's and explained why I applied the research

Bonus

We'd love to see you try more	Proof
Your app has been user tested thoroughly	Not possible unfortunately. During most projects I was too busy concepting, designing and developing. For the group project we tried really hard to get users, but Infoland couldn't help us and after emailing and talking on forums we still didn't manage to get users to test our prototypes.
The Android app uses more complex techniques, such as: Reactive User Interfaces, Data Storage, Advanced services, Android Accessory, Google Cloud Messaging, Social Network Integration, Analytics, DDMS analysis, Advanced hardware use (NFC, Wi-Fi Direct etc), Widgets, Google Play, Android Wear/glasses and the student can explain the workings of these elements and how they were applied	Sprint 5, -> helped develop an app for the Vuzix (powered by Android) AR glasses Development & Testing – Android (see 'SDK's & Libraries) -> used an open source library for beacon interaction and explained this
The iOS app uses more complexe techniques, such as: GameCenter, Beta testing (testflight), Passbook, Advanced graphics (OpenGL, Quart, Core Image, Metal), Sprites / animations(SpriteKit/Scenekit), 3d engine (Unity, UE4), Analytics, Gestures, Hardware usage (camera, augmented reality, virtual reality, external hardware), Monetization (In App purchases, iAd, NewsStand, Swift/Objective C bridge.) and the student can explain the workings of these elements and how they were applied	POC's (see 'Vision framework' & 'Core Motion framework- accelerometer') -> used the Vision framework to allow the user to interact through air gestures. Also used the Core Motion framework to get data from the accelerometer.

Capita Selecta

Learning objectives	Proof
The student is able to view developments in a critical way and make an impact analysis of technology in the near future	Vision of the future
The student is able to be aware of the disruptiveness of technological developments and is able to regard them in a social context.	Vision of the future
The student is able to connect technology to new and innovative ideas and concepts	Initial concept – IOS/Freaky Friday (see 'motivation') -> came up with a concept that uses AR to provide a new solution Concepting – IOS/Freaky Friday (see 'Design document – my project contribution') -> came up with concepts that use AR to provide a new solution
The student is able to place concepts using persuasive tech in their own speciality	The whole group project -> the concepts me and the other project members came up with are persuasive because they have the potential to change the user's way of working without realizing it. Users will unknowingly start to depend on their AR glasses more and more.
The student is able to choose and implement using heuristics in a design and (paper) prototype	Designs – Hybrid (see 'Evaluation') -> applied fitting design heuristics from a reliable source
The student is able to investigate the impact of technology on man and his surroundings	Vision of the future
The student is able to discuss and reflect on said impact, using examples and experiences	Vision of the future
The student is able to develop and demonstrate a critical view on technology in general and on their speciality in particular	Vision of the future
The student is able to develop an opinion based on facts rather than emotion	Designs (see 'Evaluation') -> I think it's best to follow existing design principles/guidelines rather than trying to invent your own. During the designing of the hybrid app I applied general design principles and guidelines. For instance, I made the design more recognizable by applying Google Fonts icons. Users are familiar with this style since this is used by the majority of Android apps and Flutter automatically translates the icons to Cupertino icons for iOS devices.

Minimum Criteria	Proof
Student is involved in group activities	Sprint 1, 2, 3 of the group project -> I was working together with

	multiple project members when we were design sprinting.
Findings are presented with a high level of quality/polish, showcasing integration of covered subjects. - Feedback on intermediate products have been processed adequately	Sprint 1 (see 'results') -> I made a flyer that explained one of the concepts we came up with
Student has linked elements of futurology, persuasive technology and philosophy into one coherent integral product	Sprint 2 (see 'InsertHeader') -> in my 'ways to consume info' research I described all the ways humans can consume information. I also list which of these ways can be used with the AR glasses. The Vuzix glasses can vibrate and play sounds. This means we can condition users by for example playing a sound and making the glasses vibrate every time the user finishes a protocol.
Student shows usage and understanding of the DOT research framework whilst working on the learning goals	Sprint 5 (see 'custom styles') -> did (desktop) research on managing Android repo's and explained why I applied the research
The student is in charge of his / her own learning process. He / she takes the initiative to regularly request (at least weekly) feedback and to record this in FeedPulse. Student acts on the given feedback and reflects on it	View my FeedPulse on Canvas. I regularly requested feedback throughout the semester. I wasn't always in need for feedback. For instance, in concepting and design phases I did require weekly feedback, but during developing phases I didn't feel the need to ask feedback since I could do that on my own or do it with project members.

Bonus

We'd love to see you try more	Proof
You have involved external stakeholders	Sprint 3 -> Involved Infoland employees to get to know more about their Zenya users
Deliverables are of a very high quality and are presented meticulously	Contributed to a good handover of the project by organizing my research papers, products, designs and others inside a file hosting service (OneDrive). The products are made in a consistently clear way. Research papers have a certain structure for example.
Participation of student in group activities is very good where student is highly involved and (partially) facilitated the process	I always communicated when I would work remotely or at the Fontys location. I managed the iOS/Freaky Friday project by arranging meetings and presenting our project. I participated in all the ideating

	sessions.
	I never skipped/missed a (stand-up) meeting.
	I always shared my products/findings/progress.

Industry Project

Learning goals	Proof
Student is able to act in a group and develop a mobile solution for an external client	See 'Group Project'
Student is able to show his agile/SCRUM process skills to iteratively work towards client value	See 'Group Project'
Student is able to guard and improve the quality of the product using consciously chosen tools	Development & Testing (see 'Dev environment & tools') -> Used tools and resources (applying open source widgets for example) for Flutter to improve the app. Also improved the app by making multiple widgets into one component to improve readability.
Student is able to apply learning goals from the technology and experience elements in an integral way	See 'Group Project'
Examples of deliverables should contain, but not be limited to: ● Sprint demos consisting of products and presentations ● Reflections and retrospectives ● Individual product- and process portfolio ● Cumulative feedback log (Feedpulse)	Retrospective (see 'Retrospective') -> I have reflected on every sprint and participated in a retrospective. I have helped form the sprint demos. I have asked for- and submitted feedback. View Canvas for my Feedpulse.

Minimum Criteria	Proof
Student shows they can apply learning practices Tools and techniques and Capita selecta in an integral way in a group context	Open for interpretation
Student works in a punctual way, making sure that deliverables and demonstratables are available in time in order to let stakeholder process and give feedback on these products	Whenever a certain deadline was set I always made sure to finish my work in time. I planned a few weeks ahead to make sure I wouldn't be on a time crunch. The best proof I can give is that during the retrospective no project members complained about my way of working. The client told me he was happy to already see some GUI designs so I have no reason to believe I didn't deliver valuable products in time.
Quantity, Quality and Complexity of the work is balanced. I.e. none of these elements should be emphasised over the others. An indication of this balance will be part of the feedback on the deliverables	Open for interpretation
- Overall effort, presence and participation is good and student works proactively	Open for interpretation
Student shows individual and proportional contribution to the group efforts	See my Group Project activities

Students reflects individually on the process and product.	Read all the 'Evaluation' paragraphs of each sprint of the Group Project

Criteria Good	Proof
Quality of the product is very high and the final products offer complexity/functionality not covered as part of the curriculum.	Open for interpretation
Participation and motivation is very high. Student shows a high level of commitment to the project and acted very proactively, showing initiative.	Open for interpretation
Product demonstration is of a very high level and complete.	Open for interpretation

Criteria Excellent	Proof
Student acted in a highly entrepreneurial and professional way in a group setting.	Open for interpretation
The resulting products are of a very high level of quality and is (almost) ready to go to market.	No proof. Projects were too short, too innovative to be ready to go to the market.

Freaky Friday

Learning goals	Proof
Student is able to conceive, design and realise their own project within a mobile context. Your project should have an element of surprise in the form of technical depth, innovativeness or concept relevance or subversiveness	See the Android project -> I worked on this project individually. I came up with concepts, designed, and realized an Android app as end product. Initial concept – IOS/Freaky Friday -> came up with an innovative concept and designed it by myself
Student is able to formulate their own process to utilise the Freaky Friday in an optimal way, involving the teachers to showcase the results	See the FeedPulse freaky friday and individual feedpulse checkpoints -> I kept contacting teachers because I either needed help/their advice and/or because I wanted to keep them updated on my progress.

Minimum Criteria	Proof
Student present Freaky Friday at least twice to their fellow students	Presented the 'Initial concept' at TQ when Freaky Friday was halfway done and presented the Freaky Friday/iOS project online
Student involved the teachers in a frequent manner and records feedback in FeedPulse	See the FeedPulse freaky friday and individual feedpulse checkpoints -> I kept contacting teachers because I either needed help/their advice and/or because I wanted to keep them updated on my progress.
Student demonstrates Freaky Friday result at the final presentations	Presented the Freaky Friday/iOS project online which included the findings

Criteria Good	Proof
Student was highly involved and motivated in the Freaky Friday project	Open for interpretation
Freaky Friday is complete, well presented and substantiated and the final presentations shows a complete prototype/demonstrator	Open for interpretation