THE GLASGOW SCHOOL OF ART	**Programme Proposal**

This Programme Proposal should be approved by the Executive Group and submitted to Academic Services.

Submitted by: (Programme Proposer)	Daniel Livingstone
Date	13/04/2015

Confirmed by: (Head of School)	Prof Paul Anderson
Date	13/04/2015

1.	**Programme Title**	Sound for the Moving Image (Recruiting to 3rd year through articulation)
1.1	**Award**	BDes (Hons) Sound for the Moving Image
1.2	**Exit Awards**	BDes Sound for the Moving Image
1.3	**Length of Programme**	24 **Months**

1.4	**Programme Level (please tick)**	**Undergraduate**	☒	**Postgraduate Taught**	☐	**Postgraduate Research**	☐
1.5	**Mode of Delivery (please tick)**	**Full time**	☒	**Part time**	☐	**Distance Learning**	☐

2.	**Entry Qualifications**	
2.1	**Highers**	N/A
2.2	**A Levels**	N/A
2.3	**Other**	**Entry through articulation or appropriate HND or equivalent post-16 qualifiaction into Year 3**
2.4	**IELTS Score Required on Entry**	IELTS with an overall score of 6 with no component less than 5.5

3.	**Proposed Start Date**	01/09/2016

4.	**School**	Digital Design Studio

5.	**Department**	n/a

6.	Subject Area of the Programme (e.g. Interior Design)	Sound design / film / sound

7.	Source of Funding (e.g. SFC)	SFC

7.1 Indicative Tuition Fees(Home/Overseas)

Home (Scotland and EU) RUK	£1820 £9,000 annual fee (capped at £27,000 for students studying entering into Year 1 and completing Year 4).	Overseas	£13100

8.	Outline academic rationale and purpose of the programme: *Please explain the academic reasons for developing this programme.*

As it transitions into the School of Visualisation and Simulation, the Digital Design Studio is introducing new undergraduate degree programmes that build on its significant history of commercial and research excellence

This programme creates a learning environment for students to develop their creative and craft skills in sound for the moving image. Building on the successful MDes Sound for the Moving Image, an undergraduate programme in Sound for the Moving Image recognises the growing interest in this topic, and the increased recognition of the importance of sound and moving image as part of the Scottish creative, cultural and commercial landscapes.

The programme will also tap into the worldwide increase in media production for an increasingly diverse and divergent audience through multiple digital distribution platforms. Students will develop key skills in sound production for visual media as well as exploring the theoretical underpinning of audio-visual synergy.

The programme will promote the production aesthetically challenging work that explores the limits of sound manipulation and evaluates personal and audience perceptions of sound design and production for the moving image. The programme will stimulate the development and realisation of cogent, original content within the field of sound production and post-production for the moving image. The programme will also provide a grounding in the professional practice of sound production for visual environments, including film, animation, television, web 2.0, interactive media, electronic games, theatre and art installations.

It is expected that graduates will find employment as audio professionals and practitioners in key creative industries based on the above.
It is proposed that the programme will be offered initially at year three and year four level with articulation from HND programmes or from mature students with relevant experience.

The programme will be expanded to a full four-year programme over subsequent years.

9.	Is there substantive overlap in terms of subject provision at this level in GSA? *You may wish to comment in more detail below if there is inter-disciplinary overlap.*
	Yes ☐ **No** ☒

If yes, please provide details of the other programmes below:	
Programme	Click here to enter text.
School	Click here to enter text.
Programme Leader	Click here to enter text.
Please confirm this overlap has been discussed with the relevant School	**Yes** ☐
Further comment?	Click here to enter text.
Please confirm this overlap has been discussed with Student Recruitment	**Yes** ☐
Further comment?	Click here to enter text.

10.	Minimum and maximum student numbers required to ensure that the provision is academically viable and appropriately resourced:

Home/EU Students

Minimum	**10 (per year)**	**Maximum**	**16 (per year)**

RUK Students

Minimum	**2**	**Maximum**	**6**

Overseas Students

Minimum	**2**	**Maximum**	**5**

Please provide an explanation of the numbers given:
The numbers are based on the number of students undertaking UG programmes at other Scottish Institutions in similar but not identical programmes. As recruitment is to year 3, there should be limited attrition due to drop outs during the programme.

11.	Please confirm the following:	
a.	A financial rationale has been approved by the Director of Finance and Resources. Any capital bids envisaged in the next four years for undergraduate programmes and three years for postgraduate programmes have been included in the financial rationale.	☒
b.	Attached is a copy of the financial rationale.	☒

12.	Analysis of the potential market for the programme in the UK and internationally, carried out in consultation with Marketing & Communications, and leading to formulation of marketing strategy: *Please provide an overview of the current and future market conditions.*

DDS Comment:
There are a considerable number of sound-based UG programmes in Scotland and the wider UK however there are very few focussed on sound for the moving image and none as of yet in Scotland. The DDS has had an enthusiastic response from FE colleges approached, and is discussing articulation arrangements with Clyde and Forth Valley colleges.

From Marketing:

This seems well positioned to take advantage of the GSA's reputation built up at PG level and the funded places available through collaborative delivery. We get small numbers of enquiries across our markets for sound related programmes, although since we don't offer these at UG level no detailed information on exactly what area of sound the students have an interest in is available. The main concern I have for this programme is how we recruit RUK and Overseas students without similar tie-ups, given this won't be a programme our traditional recruitment pool (school leavers & foundation completers) would be eligible for. I think that the International Academic Lead and the Head of International Academic Development should identify and progress 2-3 international feeder agreements to provide the Overseas students for this programme, and the PL will need to consider similar feeders in England or Northern Ireland. The market research commissioned has been tasked to look into this aspect of the programme in particular.

13.	**Anticipated demand on staffing, resources and services (including English language support and welfare):** *Please list the expected FTE required for teaching and tutorials, all accommodation and workshop requirements. Also, state any monetary costs that would not be routine.*

It is anticipated that the programme will require a further 1.5 to 2.0 FTE staff, plus support from visiting lecturers. There will also be a need for capital expenditure on facilities and equipment. These facilities would include investment in further fixed studio facilities which has implications for estates management.

These costs are further detailed in the financial rationale.

14.	**If a collaboration with other institutions is proposed, please provide the following:**	
Partner Institution:	N/A	
Nature of Collaboration (please tick)		
Joint programme – single awarding institution – University of Glasgow		☐
Joint programme – single awarding institution – other than UoG		☐
Joint Programme – GSA delivery to UoG programme		☐
Joint Programme – UoG delivery to GSA programme		☐
Delivery of GSA programmes overseas		☐
Articulation to a GSA programme		☐
If a Joint Programme, please state the administering institution:		

15.	**Please confirm the following:**	
a.	**A market analysis has been undertaken in consultation with the Head of Student Recruitment and has been discussed with the Director of Marketing, Communications and Strategic Planning and is set out in this Programme Proposal. A marketing strategy has also been agreed as part of this discussion.**	☒
b.	**The proposal and any resource implications have been discussed with the Head of Technical Services.**	☒
c.	**The proposal has been discussed with the Head of Learning Resources and *the* attached 'Implications for Library/Learning Resources Provision' form has been completed.**	☒

d. **The proposal has been discussed with the Estates Manager and the attached 'Implications for Estates Provision' form has been completed.**	☒
e. **The proposal has been discussed with the Director of IT and the attached 'Implications for IT Provision' form has been completed.**	☒
f. **Please confirm that the proposal has been discussed in detail with the Head of Learning and Teaching.**	☒
g. **If the proposal relates to postgraduate provision, please confirm that the proposal has been discussed in detail with the Head of Research and the *Head* of the Graduate School.**	☐
h. **If the proposal relates to joint provision with the University of Glasgow, please confirm that the proposal has been discussed in detail with staff at an appropriate level in the relevant College.**	☐

IMPLICATIONS FOR LIBRARY/LEARNING RESOURCES PROVISION *(to be completed by GSA Library)*

DATE of this document	02 April 2015
PROPOSED COURSE	BDes (Hons) Sound for the Moving Image

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a. **Position Statement**

GSA Library has been supporting the MDes Sound for the Moving Image course for several years; however there is a lack of introductory-level texts and software manuals more suitable for a cohort of undergraduate students which would need to be addressed. In terms of electronic journal content, the Library's access to the ACM Digital Library may be sufficient in itself. Other resources currently held in the Library, notably the material on film studies, will also be useful.

b. **Current Collection Strengths**

GSA Library currently provides material to support the MDes Sound for the Moving Image course. This collection includes around 50 book titles on the subject of sound in a mix of print and electronic form plus a larger, more general collection of more than 1,000 book titles on the subject of film theory, criticism, storyboarding and filmmaking that are generally used to support FoCI undergraduate teaching. In addition, the Library potentially has access to substantial range e-book content on the subject of sound through our e-book supplier. We handle purchase suggestions for both print and e-books from the GSA community and for e-book content specifically, we are often able to turnaround requests for new e-books within 48 hours of receipt.

GSA Learning Resources has complete subscription access to the Digital Library for the Association for Computing Machinery ACM), the world's largest educational and scientific computing society, and this will be very useful in supporting the proposed Programme's learning and teaching. The ACM Digital Library is the repository for all content presented at ACM-sponsored events or published by ACM. It features the latest developments in

computer graphics and interactive techniques, and includes conference proceedings, course notes and poster abstracts. The Library also holds subscriptions to databases such as BFI InView, SCRAN and JISC MediaHub that provide access to audio and video files as well as film and television titles. In terms of open access content, the Library catalogue links outwardly to open access databases, and profiles new resources via Learning Resource's social media channels.

Learning Resources holds a small collection of directly relevant print journals including Sound on Sound, Audio Media, Resolution and Soundtrack together with more general titles such as Computer Arts and Sight and Sound. In some cases, remote digital access to e-journal content is enabled where bundled print and electronic subscription deals exist.

c. Current Collection Weaknesses

Because the current Sound material supports a small number of PG-level students, there is a lack of both introductory level texts on sound as a subject, and explanatory manuals for using particular pieces of software. For Learning Resources to support the undergraduate programme, a need to purchase a number of introductory texts and manuals covering the basics of software such as Pro Tools, Media Composer and Max/SMP has been identified.

Regarding the School's VLE, the formal articulation route from an FE institution may need to be investigated in more detail with the Learning Technologist to assess the level of FE student engagement with the VLE and to plan for any necessary training in its use.

It is essential that academics in the Digital Design Studio regularly liaise with the Academic Liaison Librarians on new software and updated versions of existing software packages in use on the course to ensure that effective library provision is maintained.

d. Indicative Costs for Addressing Collection Weaknesses

The estimated cost for the acquisition of an e-book manual on Pro Tools and for three separate print copies of manuals, one on Media Composer and one on Max/SMP is £450.

Introductory texts on sound appear to be relatively inexpensive, and we suggest allowing £500 to purchase a selection of these, including multiple copies where appropriate. Pressure on the cost of resources is somewhat alleviated by the fact that students on the course will articulate into level 3 of the programme meaning that slightly fewer resources may be needed than for a four year degree programme.

Overall, this amounts to a £1000 recommended budget for textbook resources to support learning and teaching on the course.

Pressure on the cost of resources is somewhat alleviated by the fact that students on the course will articulate into level 3 of the programme meaning that there is less demand on print resources due to a fewer number of students and reduced demand for introductory textbooks.

IMPLICATIONS FOR ESTATES PROVISION *(to be completed in liaison with Estates Management)*

DATE of this document	2/4/2015.
PROPOSED PROGRAMME	BDes Sound for the Moving Image

a. **What spatial area will be required for the new programme?** (Please see item 10)
4-6m^2 per student – growing to ~ 240 m^2 – for studio/teaching space.   Additional technical sound recording room (at least 3m by 3m) plus mixing/dubbing room (at least 3m by 3m). Mixing room not required until second year of program.

b. **Where will the new programme be physically located?**
To be confirmed, although a base at The Hub is to be considered for the programme.   It is expected that the programme would make use of facilities at The Hub – where there are existing high quality sound dubbing and recording facilities, as well as strong connections to the BBC and Film City – as well as the main campus, to leverage shared media resources.

c. **How will the location of the new programme impact on or be impacted on by current co-located programmes?**
No impact on co-located programmes. Some teaching sessions to use facilities at the Hub, to be scheduled to minimise/avoid impact on MDes Sound for the Moving Image

d. **What are the potential physical challenges with the space for the new programme?** (Please see Estates for a room data check sheet to assist)
Sound, IT and Power. Quiet spaces required away from workshops, fumes and workshop related activities.   Recording/mixing rooms should ideally be internal spaces. Do not need to be soundproof, but require acoustic treatment. (Budgeted within financial rationale)   Office type spaces for desk/computer based working rather than workshop/making spaces required. Some control over light (e.g. blinds) required for screen based working.

e. **What are the financial implications of refitting the current space to make it fit for purpose for the new programme?** (Please see item 11.a)
Acoustic treatment included within financial rationale.   Use of trolley mounted large screen TVs reduces need for fitted IT infrastructure   IT infrastructure required to include power and network points for student laptops at each desk and for small number of provided workstations. IT infrastructure for recording/mixing rooms: Mixing desk, speakers, computer

IMPLICATIONS FOR IT PROVISION *(to be completed in liaison with Director of IT)*

DATE of this document	30/03/2015
PROPOSED PROGRAMME	BDes Sound for the Moving Image

a. **What is the impact on IT to support this Programme Proposal?**
Nominal impact. IT able to support this programme with little impact based on current staffing and overall demands of the GSA. **Decision required on whether dubbing studio supported by academic staff, technical services or IT** **Students will be expected to conduct the majority of work on their own laptops, with Mac workstations available for specialist tasks/activities**

b. **What additional / replacement IT hardware is required?**
Mac workstations for student working. IT access for student laptops (wifi/network points) **Mac based mixing/dubbing studio**

c. **Is there additional / replacement software licenses required?**
Protools, Media Composer, Logic, Final Cut, Waves, Native Instruments

d. **Are there any operating systems required in addition to those currently supported?**
No

e. **What are the financial implications from an IT perspective to deliver this programme?**
Hardware and software costs included in financial rationale **Recurring costs and IT refresh for future years will be addressed during IT asset management review**

THE GLASGOW SCHOOL ꝏ ARt		**Programme Proposal**

Submitted by: (Programme Proposer)	**Daniel Livingstone**
Date	13/04/2015

Confirmed by: (Head of School)	**Prof. Paul Anderson**
Date	13/04/2015

1.	**Programme Title**	Immersive Systems
1.1	**Award**	BSc Hons Immersive Systems (User Experience) BSc Hons Immersive Systems (Smart Technologies) BSc Hons Immersive Systems (Visualisation)
1.2	**Exit Awards**	BSc/DipHE/CertHE Immersive Systems
1.3	**Length of Programme**	48 **Months**

1.4	**Programme Level (please tick)**	**Undergraduate**	☒	**Postgraduate Taught**	☐	**Postgraduate Research**	☐
1.5	**Mode of Delivery (please tick)**	**Full time**	☒	**Part time**	☐	**Distance Learning**	☐

2.	**Entry Qualifications**	
2.1	**Highers**	**4 Highers at ABBB (one sitting) or AABB (two sittings)**
2.2	**A Levels**	**3 A Levels at ABB (one sitting) or AAA (two sittings) and GCSE English at Grade A**
2.3	**Other**	**International Baccalaureate (IB)** **30 points overall in the Diploma including 5 in 3 subjects at Higher Level, normally including English and Math or Design Technology**
2.4	**IELTS Score Required on Entry**	IELTS with an overall score of 6 with no component less than 5.5

3.	**Proposed Start Date**	01/09/2016

4.	**School**	DDS

5.	**Department**	N/A

6.	**Subject Area of the Programme (e.g. Interior Design)**	Computing, Virtual Reality, Digital Interaction, User Experience, Visualisation

7.	**Source of Funding (e.g. SFC)**	SFC

7.1 Indicative Tuition Fees(Home/Overseas)

Home (Scotland and EU) RUK	£1820, £9,000 annual fee (capped at £27,000 for students studying entering into Year 1 and completing Year 4).	Overseas	£13100

8.	**Outline academic rationale and purpose of the programme:** *Please explain the academic reasons for developing this programme.*

As the Internet of things advances, the very notion of a clear dividing line between reality and virtual reality becomes blurred, sometimes in creative ways. Geoff Mulgan, NESTA

As it transitions into the School of Visualisation and Simulation, the Digital Design Studio is introducing new undergraduate degree programmes that build on its significant history of commercial and research excellence

This new programme will develop graduates with strong practical software and immersive systems (Virtual Reality) development skills, an understanding of how people and technology interact, combined with the creative insight essential to help create the future in immersive systems.

Students on the BSc in Immersive Systems will develop an understanding of computing fundamentals and be actively engaged in the conception and development of new interactive and immersive systems for traditional and mobile platforms. Visualisation and Virtual Reality has been an area of excellence for the DDS since its formation almost 20 years ago, and is an area that is now seeing a surge of rapid development and adoption worldwide. With the entertainment market driving costs down, new opportunities are emerging for VR in broadcast and entertainment, medical, engineering and other domains, with major investments from companies as varied as Sky Broadcasting, Sony, Facebook, Amazon and Microsoft. Students can expect to benefit from the DDS' continued research and commercial work (in e.g. oil & gas and medical sectors) and relationships with major broadcasters, VR developers and users.

User Experience (UX) is sometimes seen as a specialism within computing – yet this has been the cornerstone for bringing computers out of the science labs and into everyday life. Imagining new and different uses of digital technology, and then working out how to make it usable is as fundamental to the development of digital technologies as the 1s and 0s of binary arithmetic. As the physical keyboard and mouse interfaces are slowly supplanted by touch, gesture and voice, new possibilities, new solutions and new problems will continue to drive the need for User Experience specialists who can blend rigour and vision. In Immersive Systems, there is an even greater than usual need for UX specialists – where e.g. Head Mounted Display (HMD) devices enclose the users field of view, consideration of how the

user can interact safely and effectively with a virtual world may mean abandoning long held norms and standard computing metaphors.

Smart technologies are all about small devices and gadgets that fit into your everyday lifestyle to make a big difference in ways you may never have imagined - it's sometimes called the Internet of Things. With the current wave of Smart devices and our increasingly connected world, there has never been a better time to explore the world of Smart Tech. Through Augmented Reality (c.f. Microsoft Hololens), smart technologies increasingly live at the interface between the virtual and physical worlds – part of a rapidly developing space for technological and social innovation.

The degree will follow a 'T' shape structure, with a common structure in the initial years of the degree, finishing with a degree and honours year in which students specialise in their chosen pathway.

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9. **Is there substantive overlap in terms of subject provision at this level in GSA?** *You may wish to comment in more detail below if there is inter-disciplinary overlap.*

Yes	☐	**No**	☒

If yes, please provide details of the other programmes below:	
Programme	Click here to enter text.
School	Click here to enter text.
Programme Leader	Click here to enter text.
Please confirm this overlap has been discussed with the relevant School	**Yes** ☐
Further comment?	Click here to enter text.
Please confirm this overlap has been discussed with Student Recruitment	**Yes** ☐
Further comment?	Click here to enter text.

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10. **Minimum and maximum student numbers required to ensure that the provision is academically viable and appropriately resourced:**

Home/EU Students

Minimum	6	**Maximum**	20

RUK Students

Minimum	2	**Maximum**	12

Overseas Students

Minimum	0	**Maximum**	6

Please provide an explanation of the numbers given:
The overall numbers would need to reach this level for each year of the programme, although the split across categories could be different. If there was stronger interest from RUK/OS students, this split could be reviewed.
The programme has also been conceived with the addition of new pathways over time – this would allow for a greater increase in numbers.

11.	**Please confirm the following:**	
a.	**A financial rationale has been approved by the Director of Finance and Resources. Any capital bids envisaged in the next four years for undergraduate programmes and three years for postgraduate programmes have been included in the financial rationale.**	☒
b.	**Attached is a copy of the financial rationale.**	☒

12.	**Analysis of the potential market for the programme in the UK and internationally, carried out in consultation with Marketing & Communications, and leading to formulation of marketing strategy:** *Please provide an overview of the current and future market conditions.*
	DDS Analysis: Virtual reality is the focus of a great deal of growth in interest: e.g. Current issue of 'Marketing' is a Virtual Reality special; new devices have been launched or announced by HTC, Microsoft, Samsung and many other vendors; Facebook invested over $1 billion in VR developer Oculus; and UK broadcasters such as Sky are likewise investing heavily in immersive systems. This offers a good window for creating a new programme to address this current area of intense interest. A review of existing programmes in Immersive Systems and Virtual Reality revealed few existing programmes at UG level worldwide, and none in Scotland. Marketing comment: The proposal looks like it would be interesting and attract students interested in creative uses of technology and virtual reality. However, as this is quite a new area and not one for which we have received enquiries in the past (these tend to be for more established areas such as gaming and animation) the more extensive research being undertaken by the market research company will be of great importance in establishing the likely size and origin of any potential market. One small concern would be in future proofing the degree (especially the title), given that this is a very "now" topic will it still be of similar relevance in 4-8 years when students graduate?

13.	**Anticipated demand on staffing, resources and services (including English language support and welfare):** *Please list the expected FTE required for teaching and tutorials, all accommodation and workshop requirements. Also, state any monetary costs that would not be routine.*
	It is anticipated that the programme will require a further 3.0 FTE staff, when running across all four years, plus support from visiting lecturers. There will also be a need for capital expenditure on facilities and equipment. These costs are further detailed in the financial rationale.

14.	**If a collaboration with other institutions is proposed, please provide the following:**	
Partner Institution:	N/A	
Nature of Collaboration (please tick)		
Joint programme – single awarding institution – University of Glasgow		☐
Joint programme – single awarding institution – other than UoG		☐
Joint Programme – GSA delivery to UoG programme		☐
Joint Programme – UoG delivery to GSA programme		☐

Delivery of GSA programmes overseas		☐
Articulation to a GSA programme		☐
If a Joint Programme, please state the administering institution:		

15.	**Please confirm the following:**	
a.	**A market analysis has been undertaken in consultation with the Head of Student Recruitment and has been discussed with the Director of Marketing, Communications and Strategic Planning and is set out in this Programme Proposal. A marketing strategy has also been agreed as part of this discussion.**	☒
b.	**The proposal and any resource implications have been discussed with the Head of Technical Support.**	☒
c.	**The proposal has been discussed with the Head of Learning Resources and *the* attached 'Implications for Library/Learning Resources Provision' form has been completed.**	☒
d.	**The proposal has been discussed with the Estates Manager and the attached 'Implications for Estates Provision' form has been completed.**	☒
e.	**The proposal has been discussed with the Director of IT and the attached 'Implications for IT Provision' form has been completed.**	☒
f.	**Please confirm that the proposal has been discussed in detail with the Head of Learning and Teaching.**	☒
g.	**If the proposal relates to postgraduate provision, please confirm that the proposal has been discussed in detail with the Head of Research and the *Head* of the Graduate School.**	☐
h.	**If the proposal relates to joint provision with the University of Glasgow, please confirm that the proposal has been discussed in detail with staff at an appropriate level in the relevant College.**	☐

IMPLICATIONS FOR LIBRARY/LEARNING RESOURCES PROVISION *(to be completed by GSA Library)*

DATE of this document	02 April 2015
PROPOSED COURSE	BSC Hons Immersive Systems

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a. **Position Statement**

The introduction of a four-year undergraduate programme at the Digital Design Studio places additional resource demands on Learning Resources that are accompanied by new budgetary requirements. The Library's current position is that the provision of appropriate access to journal content through subscription to the ACM Digital Library database will need to be sustained long-term and enhanced through the introduction of new book titles including manuals and introductory textbooks, and the potential (costly) acquisition of two new journal databases. There is an additional need for enhanced understanding within the Learning Resources department overall, of the specialist needs of staff and students on the new programme that could be achieved through continued liaison between staff in Learning Resources and those based at the Digital Design Studio.

b. **Current Collection Strengths**

GSA Learning Resources has complete subscription access to the Digital Library for the Association for Computing Machinery, the world's largest educational and scientific computing society. The ACM Digital Library is the repository for all content presented at ACM-sponsored events or published by ACM. The latest developments in computer graphics and interactive techniques are held in the Digital Library, the contents of which include conference proceedings, course notes and poster abstracts. Learning Resources subscription to ACM Digital Library includes access to ACM SIGGRAPH materials (the specialist interest group for computer graphics and interactive techniques) and to ACM SIGCHI (the International Society for Human-Technology and Human-Computer Interaction). This provides online access to the newsletters and proceedings of these groups that will have interest to academics and students studying in the field.
The Library holds a growing number of up-to-date book titles on user experience design and SMART (wearable) technologies that are of interest to design students across all subject areas but particularly in the areas of Design Innovation, Digital Design, Product Design (Engineering) and Fashion and Textiles. The collection includes broad introductory texts available on these subjects that may only need to be marginally supplemented for the proposed course.

c. **Current Collection Weaknesses**

For Learning Resources to support the programme, a number of introductory texts and manuals covering the basics of software such as Unity and emergent SMART technologies will need to be purchased for the Library. The current collection will also need to be expanded to introduce new titles on the general principles and applications of immersive systems and user-technology interactions, and to include specific titles relating to subjects such as visual reality and augmented reality.

The proposed course may require a subscription through Learning Resources to the IEEE *Xplore* Digital Library (http://ieeexplore.ieee.org/Xplore/home.jsp). This is a resource for

discovery and access to scientific and technical content published by the Institute of Electrical and Electronics Engineers and its publishing partners.

The course may also require a subscription to the Eurographics Digital Library (http://diglib.eg.org/). Eurographics is an association that supports members working in the areas of multimedia, scientific visualisation and human-computer interaction.

d. **Indicative Costs for Addressing Collection Weaknesses**

The provision of a new four year undergraduate course will require additional print and electronic resources, most of which will need to be updated on an ongoing basis to ensure the most current titles are held in stock. It is essential that academics in the Digital Design Studio regularly liaise with the Academic Liaison Librarians on new software and updated versions of existing software packages in use on the course to ensure that library provision keeps pace with rapidly developing research areas. This could lead to a higher turnover of book titles than in other programme areas with some titles quickly becoming obsolete. There is a further cost consideration around the acquisition of very specialist titles that may be purchased at high-cost but infrequently accessed before becoming out-dated. This in turn identifies the need for the longer-term allocation of an annual library budget to support the programme - and in line with the Library's collection development policy.

There is a need to ensure that the content of the titles being acquired to support new software systems, particularly manuals, is linked to the technical infrastructure available on the GSA campus in order that these paid-for items are put to the most effective use. Because specialist software used by DDS students is only available outside the Main Library in the Electronic Media Studio, it is recommended that e-book content is prioritised. This would enable students to access titles remotely at the same time as using the software. E-content has a generally higher cost attached to it than print.

An estimated cost for the acquisition of new texts and manuals as identified in Section c above is £1000. Where possible, texts will be purchased in electronic format to maximise student access.

The cost of subscribing to the IEEE *Xplore* Digital Library is not yet known, although a quote for institutional access has been requested.
The estimated subscription rate for access to the Eurographics database as advised by the supplier is £635 per calendar year for institutions with IP-authenticated access.

IMPLICATIONS FOR ESTATES PROVISION *(to be completed in liaison with Estates Management)*

DATE of this document	2/4/2015
PROPOSED PROGRAMME	BSc Immersive Systems

a. **What spatial area will be required for the new programme?** (Please see item 10)
4-6m^2 per student. Growing to 500m^2 when all four years are running. Space to suit computer based work, with some workstations supporting students working on own laptops.

b. **Where will the new programme be physically located?**
To be confirmed. Students will utilise facilities at both The Hub and at Main Campus, and a base at The Hub to be considered.

c. **How will the location of the new programme impact on or be impacted on by current co-located programmes?**
No significant impact on co-located programmes. Some teaching sessions to use VR facilities at the Hub, to be scheduled to minimise/avoid impact on MSc Visualisation and commercial/research operations.

d. **What are the potential physical challenges with the space for the new programme?** (Please see Estates for a room data check sheet to assist)
IT and power. Suitable accommodation away from workshops, fumes and workshop related activities. Office type spaces for desk/computer based working rather than workshop/making spaces required. Some control over light (e.g. blinds) required for screen based working.

e. **What are the financial implications of refitting the current space to make it fit for purpose for the new programme?** (Please see item 11.a)
Use of trolley mounted large screen TVs reduces need for fitted IT infrastructure **IT infrastructure required to include power and network points for student laptops at each desk and for small number of provided workstations.**

IMPLICATIONS FOR IT PROVISION *(to be completed in liaison with Director of IT)*

DATE of this document	30/03/2015.
PROPOSED PROGRAMME	BSc Immersive Systems

a. **What is the impact on IT to support this Programme Proposal?**
Nominal impact. IT able to support this programme with little impact based on current staffing and overall demands of the GSA.

b. **What additional / replacement IT hardware is required?**
Workstations for student working. IT access for student laptops (wifi/network points)

c. **Is there additional / replacement software licenses required?**
Additional licenses for Unity3D. Most other software to be used available free for academic purposes, or open source.

d. **Are there any operating systems required in addition to those currently supported?**
No

e. **What are the financial implications from an IT perspective to deliver this programme?**
Hardware and software costs included in financial rationale   **Recurring costs and IT refresh for future years will be addressed during IT asset management review**