JAHRESBERICHT 2017

Allgemeine Psychologie und Methodologie

Fakultät für Psychologie
Universität Basel

JAHRESBERICHT 2017

Allgemeine Psychologie und Methodologie

Mitarbeiterinnen und Mitarbeiter der Abteilung (per 31.12.2017)

Abteilungsleitung	Prof. Dr. Klaus Opwis
Administration	Dr. Silvia Heinz / M.Sc. Livia Müller
Wissenschaftliche Mitarbeitende	Dr. Markus Stöcklin
Assistierende	Dr. Elisa Mekler M.Sc. Julia Ayumi Bopp M.Sc. Florian Brühlmann M.Sc. Glena Iten M.Sc. Sharon Steinemann
Hilfsassistierende	B.Sc. Lena Aeschbach B.Sc. Laura Quintana Gomez B.Sc. Katja Rutz B.Sc. Kamala Sachithananthan B.Sc. Paulo Schmid
Lehrbeauftragte	Dr. Javier Bargas-Avila (FS 2017, HS 2017) Prof. Dr. Andreas Gold (FS 2017) Dr. Christian Hauri (HS 2017) Dr. Christian Hübscher (FS 2017) Prof. Dr. Christian Rösler (FS 2017, HS 2017)
IT-Mitarbeiter	Lars Frasseck

Kurze Chronologie des Jahres 2017

Kurzer chronologisch geordneter Gesamtüberblick über bemerkenswerte Vorkommnisse im Jahr 2017 aus Sicht der Abteilung für Allgemeine Psychologie und Methodologie

Januar 2017

Eine in der Region ansässige Firma bewilligt die Durchführung einer gemeinsamen Studie zur Nutzung einer komplexen Applikation im Bereich der statistischen Versuchsplanung bei der Produkt- und Prozessoptimierung.

Februar 2017

Die *Hasler Stiftung* bewilligt für die Reise- und Teilnahmekosten zum Besuch der *35rd Annual Conference on Human Factors in Computing Systems* (CHI 2017) in Denver, Colorado (USA) einen Betrag in Höhe von CHF 6'000. Die Reisegruppe besteht aus mehreren Mitgliedern des Basler Forschungsschwerpunkts *Mensch-Maschine Interaktion*.

September 2017

Der *MIGROS Genossenschaftsbund* (Zürich) bewilligt die Durchführung einer gemeinsamen Studie zur Erstellung „Personas Migros-App".

Ehrungen/Auszeichnungen

Der bei der *Annual ACM Conference on Human Factors in Computing Systems (CHI 2016*, San Jose, California, USA, 7. –12. Mai 2016) eingereichte Konferenzbeitrag *A good reason to die: How avatar death and high challenges enable positive experiences?* von *Serge Petralito, Florian Brühlmann, Glena Iten, Elisa D. Mekler und Klaus Opwis* wurde mit einem *CHI Honorable Mention Award* ausgezeichnet. Von den insgesamt rund 2400 Beiträgen wurde dieser Award 96 Beiträgen zuerkannt (resp. den „top 4%" aller Beiträge).

Öffentlichkeitsarbeit

Die *Stefanie und Wolfgang Baumann Stiftung* unterstützt im HS 2017 eine Vortragsreihe zum Thema *Empathie*.

Personalia in 2017

Januar 2017

Livia Müller beginnt nach ihrem erfolgreichen Masterstudium eine drittmittelfinanzierte Assistenz.

Februar 2017

Elisa Mekler kehrt aus ihrem mehrmonatigen Forschungsaufenthalt bei Prof. Lennart Nacke (Waterloo, Kanada) nach Basel zurück und ihre Tätigkeit als Oberassistentin fort.

Mathias Jenny verlässt Basel, um in der Privatwirtschaft in Berlin eine neue berufliche Herausforderung anzutreten.

Mai 2017

Seamus Forde verlässt Basel, um ein Dokroratsstipendium an Institute of Technology der University of Cork (Irland) zu beginnen.

September 2017

Kamala Sachithananthan und Paulo Schmid beginnen als neue Hilfsassistierende.

Dezember 2017

Katja Rutz beginnt als neue Hilfsassistentin.

Drittmittel in 2017

2017 konnten Drittmittel im Umfang von rund CHF 100'000 erfolgreich eingeworben werden, die insbesondere zur Finanzierung zusätzlicher Personalanstellungen (Lehrbeauftragte, Assistierende, Doktorierende, Hilfsassistierende) genutzt wurden.

Lehrveranstaltungen

Frühlingssemester 2017

Bachelorstudium

Forschungsmethoden und Statistik II (Propädeutische Vorlesung mit Übung; Stöcklin & Opwis)
Lernschwierigkeiten: Ursachen, Diagnose, Prävention und Intervention (Gold, LA)
Empirisch-Experimentelles Projektseminar (Bopp, Steinemann)

Wie schreibe ich eine Bachelorarbeit in der Mensch Maschine Interaktion? (Brühlmann, Iten, Steinemann & Opwis)
Einführung in die Analytische Psychologie C.G. Jung (Roesler, LA)
Praxis der analytischen Psychotherapie C.G. Jungs: Anwendung und Vertiefungen (Roesler, LA)

Masterstudium
Quantitative und qualitative Evaluation von zentralen Konzepten der Mensch-Maschine Interaktion I (Iten & Steinemann)
Usability-Testing: Evaluation der Mensch Maschine Interaktion (Bargas-Avila, LA, & Heinz)
Online Forschung in der MMI: Fragebogenkonstruktion und Analyse (Brühlman)
Konzeption und Design von User Interfaces I (Hübscher, LA)
Praxis der empirischen Forschung: Komplexere varianzanalytische Verfahren (Stöcklin)
Einführung in erkenntnis- und wissenschaftstheoretische Fragen (Stöcklin)

Masterprojekte

Mensch Maschine Interaktion (Brühlmann, Iten, Opwis, Steinemann)
Experimentelle Kognitionsforschung über die Lebensspanne (Iten & Opwis)

Doktoratskolloquium am 22. Februar 2017

Ein Stups für die Umwelt: Das Energie Label (Swen Kühne)

The impact of media on prosocial behavior and attitude change towards outgroups (Sharon Steinemann)

A good reason to die: How avatar death and high challenges enable positive experiences (Serge Petralito)

Kurzpräsentation neue Doktorierende (Livia Müller, Claire Reymond)

Herbstsemester 2017

Bachelorstudium

Kognitive Psychologie I: Wahrnehmung, Aufmerksamkeit Gedächtnis (Propädeutische Vorlesung; Reijnen)
Forschungsmethoden & Statistik I (Propädeutische Vorlesung mit Übung; Stöcklin & Reijnen)
Einführung in die Mensch Maschine Interaktion (Bargas-Avila, LA)
Forschungsmethoden & Statistik III (Stöcklin & Brühlmann & Mekler)
Empirisch-Experimentelles Projektseminar (Bopp, Steinemann)
Wie schreibe ich eine Bachelorarbeit in der Mensch Maschine Interaktion? (Brühlmann, Mekler, Steinemann)
Einführung in die Analytische Psychologie C.G. Jung (Roesler, LA)
Praxis der analytischen Psychotherapie C.G. Jungs: Anwendung und Vertiefungen (Roesler, LA)

Masterstudium

Emotion in der MMI (Mekler)
Aktuelle Forschungsthemen der Mensch-Maschine Interaktion (Iten & Steinemann)

Mit Arbeitsanalyse und Workshopmoderation zum Entwurf von Mensch-Maschine Interaktion (Hauri, LA)
Eye-Tracking Methoden in der Mensch Maschine Interaktion (Brühlmann & Heinz)
Praxis der empirischen Forschung: Regressionsanalytische Verfahren (Stöcklin)

Masterprojekte

Mensch Maschine Interaktion (Brühlmann, Iten, Mekler, Opwis & Steinemann)
Experimentelle Kognitionsforschung über die Lebensspanne (Iten & Opwis)

Doktoratskolloquium am 27. September 2017

Media-induced recovery: The role of arousal (Glena Iten)

Emotionale Herausforderungen in digitalen Spielen (Julia A. Bopp)

Master of Advanced Studies in Human Computer Interaction Design (MAS-HCID)

Psychologie: Einführung in die Kognitive Psychologie (Opwis)

Eye Tracking (Heinz & Müller)

Publikationen in 2017

In der bibliometrischen Datenbank SCOPUS erfasste Artikel und Beiträge [1]

Iten, G. H., Steinemann, S.T. & Opwis, K. (2017). To save or to sacrifice? Understanding meaningful choices in games. *Proceedings of the 4rd Annual ACM SIGCHI Conference on Computer-Human Interaction in Play (CHI PLAY 2017),* Amsterdam, Niederlande, 15.–18. October 2017), 495-502. [2]

Playing digital games can confront the player with choices that are emotional, morally ambivalent and highly personally meaningful. Past research suggests that meaningful choices have the potential to positively affect prosocial behavior. Up to now however, it is unclear what specific characteristics make in-game choices meaningful. The goal of this work-in-progress was therefore to shed light on this topic. Coding qualitative answers to a preliminary online survey found that meaningful choices were often characterized by a combination of different options from which the player had to choose one: moral, strategic or emotional. Being able to choose between these types of options and knowing that these choices would have consequences lead to choices that were experienced as meaningful. Crucially, almost all choices reported also contained a social component. Steps for future research based on these findings are discussed.

Heinz, S., Linxen, S., Tuch, A.N., Frasseck, L. & Opwis, K. (2017). Is It Still Where I Expect It? Users' Current Expectations of Interface Elements on the Most Frequent Types of Websites. *Interacting with Computers, 29,* 325-344. [3]

Knowing users' expectations about what they expect on a website and where they expect to find it is crucial for the success of a website. For the last decade, technological advances have entailed major changes in website design but the impact of these changes on users' mental representations of web- sites remains unclear. In an online study (N = 841), we asked users to sketch their prototypical ver- sion of an online shop, a news website and a company page, thereby indicating the interface elements they expect on the website and their expected location. We compared our results to those of a pre- vious study to investigate changes in users' mental representations of websites over time.

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[1] Nachfolgende Angaben zu den einzelnen Zeitschriften sind entnommen einserseits dem *Journal Citation Reports* (JCR) *Science Edition* resp. *Social Science Edition* aus dem ***ISI Web of Science*** (*Impact Factor der Zeitschrift / durchschnittlicher Impact Factor der letzten 5 Jahre / Kategorie: Rankplatz - Anzahl Zeitschriften - Quartil*) respektive andererseits - nach dem doppelten Trennstrich (//) - dem *SCImago Journal & Country Rank Portal* auf der Grundlage von ***SCOPUS*** (*Bereich/Schwerpunkt: Rangplatz - Anzahl Zeitschriften - Quartil*).

Erläuterung: Beispielsweise hat die Zeitschrift *Computers in Human Behavior* laut JCR für das Jahr 2010 einen *Impact Factor* (IF) von 1.9. Der durchschnittliche IF der vorausgegangenen fünf Jahre (2006 bis 2010) beträgt 2.3. Die Zeitschrift ist im JCR in zwei verschiedenen Kategorien gelistet: In der Kategorie *Psychology, Experimental*, wo sie nach ihrem IF den Rangplatz 37 von den dort insgesamt 81 gelisteten Zeitschriften belegt und damit einen Rangplatz im 2. Quartil (Q2). Ebenfalls gelistet ist die Zeitschrift in der Kategorie *Psychology, Multidisciplinary*. Dort belegt sie mit ihrem Rangplatz 26 von insgesamt 120 Zeitschriften einen Platz im 1. Quartil (Q1). SCImago listet die Zeitschrift *Computers in Human Behavior* in drei verschiedenen Kategorien (Angaben für das Jahr 2010): Im Bereich (*subject area*) *Computer Science* und dort im Schwerpunkt (*subject category*) *Computer Science Applications* (Rangplatz 54 von 194 Zeitschriften, Q2); im Bereich *Psychology* und dort im Schwerpunkt *Developmental and Educational Psychology* (Rangplatz 29 von 91 Zeitschriften, Q2) sowie im Bereich *Psychology* und dort im Schwerpunkt *Experimental and Cognitive Psychology* (Rangplatz 36 von 53 Zeitschriften, Q3). Die Rankreihung erfolgt jeweils auf der Grundlage des *SCImago Journal Rank Indicator* (SJR), einem speziell normierten Mass für den Impact einer Zeitschrift auf Basis der Einträge in SCOPUS.

Durch Fettdruck im Folgenden hervorgehoben sind **Rangplätze im 1. Quartil (Q1)**.

[2] Keine Angaben vorhanden // Keine Angaben vorhanden.

[3] IF(2016) = 1.4 / IF(5-Year) = 2.0 / *Computer Science, Cybernetics:* 13 – 22 – Q3 // *Computer Science: Human-Computer Interaction*: 75 – 276 – Q3 / *Computer Science: Software*: 314 – 1156 – Q3.

This comparison suggests that interface elements such as the logo, main content and navigation area are still expected in the same location although others have shifted to the rich footer area at the bottom of the website. In addition, new elements such as links to social networks have been incorporated into users' mental representations whereas other interface elements have disappeared. By providing updated consolidated blueprint models for all three website types, we help designers to create expectation-based websites. Further implications for research and practitioners are discussed.

Mekler, E.D., Brühlmann, F., Tuch, A.N. & Opwis, K. (2017). Towards understanding the effects of individual gamification elements on intrinsic motivation and performance. *Computers in Human Behavior, 71,* 525-534. [4]

Research on the effectiveness of gamification has proliferated over the last few years, but the underlying motivational mechanisms have only recently become object of empirical research. It has been suggested that when perceived as informational, gamification elements, such as points, levels and leaderboards, may afford feelings of competence and hence enhance intrinsic motivation and promote performance gains. We conducted a 2 x 4 online experiment that systematically examined how points, leaderboards and levels, as well as participants' goal causality orientation influence intrinsic motivation, competence and performance (tag quantity and quality) in an image annotation task. Compared to a control condition, game elements did not significantly affect competence or intrinsic motivation, irrespective of participants' causality orientation. However, participants' performance did not mirror their intrinsic motivation, as points, and especially levels and leaderboard led to a significantly higher amount of tags generated compared to the control group. These findings suggest that in this particular study context, points, levels and leaderboards functioned as extrinsic incentives, effective only for promoting performance quantity.

Petralito, S., Brühlmann, F., Iten, G., Mekler, E.D. & Opwis, K. (2017). A good reason to die: How avatar death and high challenges enable positive experiences? *Proceedings of the 35rd Annual ACM Conference on Human Factors in Computing Systems (CHI 2017),* Denver, Colorado, USA, 6. –11. Mai 2017), 5087-5097. [5]

Appropriate challenges and challenge-skill balance are usually key to positive player experiences. However, some games such as the successful series Dark Souls are notorious for their excessive difficulty. Yet, there has been little empiri- cal investigation of why players enjoy games they constantly struggle and fail with. We surveyed 95 participants right after the release of Dark Souls III about their experiences with the game, employing both open questions and different player experience measures. Players generally enjoyed challenging play sessions and mostly reported positive experiences, with achievement and learning moments strongly contributing to positive experiences. However, these factors themselves were enabled by negative events such as difficulties and avatar death. Our findings showcase that negative events bear a potential for forming positive and meaningful experiences, thus expanding previous knowledge about the role of challenge and failing in games. Moreover, the significance of hard-earned achieve- ments extends present design conventions.

Steinemann, S.T., Geelen, B., de Salas, K. & *Opwis, K. (2017).* Simple acts for a better world: A gameful system for prosocial behavior - Preliminary design and research plan. *Proceedings of the 4rd Annual ACM SIGCHI Conference on Computer-Human Interaction in Play (CHI PLAY 2017),* Amsterdam, Niederlande, 15.–18. October 2017), 305-313. [6]

Games and gameful systems designed to support social change most often seek to persuade by inducing empathy and outrage through the depiction of the direness of social issues and thus motivating people to take action. However, motivation is only one possible angle from which to approach behavior change. When capability or opportunity for meaningful impact are not given, people may refrain from taking action even when motivated. This

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[4] IF(2016) = 3.4 / IF(5-Year) = 4.3 / ***Psychology, multidisciplinary*: 15 – 129 – Q1** / ***Psychology, experimental*: 10 – 84 – Q1** // ***Computer Science: Human-Computer Interaction*: 3 – 276 – Q1** / ***Psychology: Psychology (miscellaneous)*: 21 – 231 – Q1**.

[5] Keine Angaben vorhanden // *Computer Science: Human-Computer Interaction*: 62 – 276 – Q2 / ***Computer Science: Software* 249 – 1156 – Q1 / *Computer Science: Computer Graphics and Computer-Aided Design*: 51 – 277 – Q1**.

[6] Keine Angaben vorhanden // Keine Angaben vorhanden.

work-in-progress outlines the theoretical background and design plan for a pervasive gameful system. Based on the behavior change wheel this system is designed to propose simple actions tailored to the player's given capabilities and opportunities, thereby encouraging prosocial behavior. We conclude with a discussion of the research plan for the evaluation of the prototype and the prosocial actions by means of two rounds of mixed-method diary studies.

Steinemann, S.T., Iten, G.H., Opwis, K., Forde, S.F., Frasseck, L. & Mekler, E.D. (2017). Interactive narratives affecting social change: A closer look at the relationship between interactivity and prosocial behavior. *Journal of Media Psychology, 29,* 54-66. [7]

Interactive narratives offer interesting opportunities for the study of the impact of media on behavior. A growing amount of research on games advocating social change, including those focusing on interactive narratives, has highlighted their potential for attitudinal and behavioral impact. In this study, we examine the relationship between interactivity and prosocial behavior, as well as potential underlying processes. A yoked study design with 634 participants compared an interactive with a noninteractive narrative. Structural equation modeling revealed no significant differences in prosocial behavior between the interactive and noninteractive condition. However, support for the importance of appreciation for and engagement with a narrative on subsequent prosocial behavior was observed. In summary, while results shed light on processes underlying the relationship between both noninteractive and interactive narratives and prosocial behavior, they also highlight interactivity as a multifaceted concept worth examining in further detail.

Wehbe, R.R., *Mekler, E.D.,* Schaekermann, M., Lank, E. & Nacke, L. E. (2017). Testing incremental difficulty design in platformer games. *Proceedings of the 35rd Annual ACM Conference on Human Factors in Computing Systems (CHI 2017,* Denver, Colorado, USA, 6. – 11. Mai 2017), 5109-5113. [8]

Designing difficulty levels in platformer games is a challenge for game designers. It is important because design decisions that affect difficulty also directly affect player experience. Consequently, design strategies for balancing game difficulty are discussed by both academics and game designers. In this paper, we study how manipulating the following design decisions, commonly found in platformers, moderates difficulty: Scroll Speed, Target Size, Jump Task Complexity, and Perspective. Results for Scroll Speed and Target Size indicate that errors increase as speed increases and platform size decreases. However, results for jump task complexity demonstrate a separation of errors from task complexity. Specifically, while double-jump tasks are harder than single-jump tasks, triple-jump tasks appear to be as difficult as double-jump tasks. Additionally, the study demonstrates how changes in perspective affect the errors made by players in gameplay. The study results are applicable both to automatic level generation and dynamic difficulty adjustment in platformer games.

Weitere peer reviewed Zeitschriftenartikel und Beiträge in internationalen Conference Proceedings mit Peer-Review (nicht in der bibliometrischen Datenbank SCOPUS erfasst)

Brühlmann, F. (2017). Transparent statistics in questionaire development and analysis. *Proceedings of the 35rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems* (Extended Abstract, Workshop presentation, CHI 2017, Denver, Colorado, USA, 6. –11. Mai 2017).

Bopp, J. A. & Mekler, E. D. (2017). Evaluating Emotionally Intense Emotion Regulation Games. *Proceedings oft he Annual ACM Conference Extended Abstracts on Computer-Human*

[7] IF(2016) = 1.1 / IF(5-Year) = 1.6 / *Psychology, multidisciplinary*: 72 – 129 – Q3 / *Communication:* 45 – 79 – Q3 // *Psychology: Applied Psychology:* 105 – 194 – Q3 / *Psychology: Social Psychology:* 101 – 241 – Q2 / *Social Sciences: Communication:* 72 – 293 – Q2.

[8] Keine Angaben vorhanden // *Computer Science: Human-Computer Interaction*: 62 – 276 – Q2 / ***Computer Science: Software* 249 – 1156 – Q1 / *Computer Science: Computer Graphics and Computer-Aided Design*: 51 – 277 – Q1**.

Interaction in Play (Extended Abstract, Workshop presentation, CHI PLAY 2017, Amsterdam, Holland, 15. – 18. Oktober 2017).

Monographien und Buchherausgaben

Schmid, Gian-Marco (2017). *Evaluating the experiential quality of musical instruments: A psychometric approach*. Wiesbaden: Springer Best Masters Psychology.

Kapitel in Sammel-, Hand- und Lehrbüchern, Beiträge in wissenschaftlichen Zeitschriften ohne Peer Review, Forschungsberichte

Keine Einträge

Kurzbeiträge / Vorträge / Poster/Publizierte (peer-reviewed) Abstracts

Keine Einträge

Qualifikationsarbeiten (Abschluss in 2017)

Dissertationen

Hübscher, Christian (2017). *Structured approaches to interaction design: A way to bridge the gap between the results of foundational user research and the final design of a user interface*. (Gutachter K. O., Datum der Disputation: 24. April 2017).

Masterarbeiten

Endress, Sarah (2017). *The paradox of enjoying frightening experiences but not liking being frightened: Gratifications of frightening game experiences*.

Frese, Lisa (2017). *Reference frame selection in different spatial learning profiles*.

Gasser, Alina (2017). *A qualitative view on elders interacting with a health care robot with bodily movements*.

Mall, Julia (2017). *Library service questionaire: Development and implementation of an online questionaire to measure user satisfaction with the services of the university libraries of Basel and Lucerne*.

Martinis, Fabian (2017). *Should users be given a choice about gamification?*

Patsawee, Rodcharoen (2017). *Exploring creative cognition under a cultural lens: Considering early cultural mixing, cultural identity, bilingualism, online assessed divergent thinking and verbal fluency*.

Quintana, Laura (2017). *The pretty and the useful: Effects of aesthetics and usability on mobile webshop evaluation*.

Rieser, Denise (2017). *Measuring trust – Quick and dirty*.

Troendle, Antonin (2017). *First impression: The importance of aesthetics for a website's success*.

Bachelorarbeiten

Aeschbach, Lena (2017). *Writing a part for ourselves: Idenfication with interactive media and its influence on self-esteem*.

Bastam, Nathania D. (2017). *Effects of mobile phone addiction on interpersonal relationships and negative emotions*.

Loeb, Boas (2017). *Could social media platforms provide new ways to measure personality? A small sample scoping review*.

Margelli, Daphne (2017). *Approaching game enjoyment and negative emotions in games*.

Rutz, Katja (2017). *The influence design factors have on data quality and data quantity of web surveys*.

Zwicky, Laura (2017). *Der Einfluss verschiedener Videospielarten auf die Prosozialität*.

Masterstudierende (per 31. Dezember 2017)

Aeschbach, Lena
Baumann, Melanie
Caroni, Pietro
Endress, Sarah
Frese, Lisa
Gasser, Alina
Lerch, Vanessa Rita
Mall, Julia
Quanbrough, Jasmine
Quintana, Laura
Rutz, Katja
Stahl, Leonard

Doktorandinnen und Doktoranden (per 31. Dezember 2017)

Adamski, Natalia
Bopp, Julia Ayumi
Brühlmann, Florian
Cortesi, Sandra
Federspiel, Esther
Hug, Markus
Iten, Glena
Linxen, Sebastian
Kühne, Swen
Müller, Livia
Orsini, Sébastien
Petralito, Serge
Reymond, Claire
Steinemann, Sharon
Sterchi, Yanik
Vollenwyder, Beat